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THE COPPER ESKIMOS

an area economic survey

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by
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contributions by
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INDUSTRIAL DIVISION NORTHERN ADMINISTRATION BRANCH
DEPARTMENT OF NORTHERN AFFAIRS & NATIONAL RESOURCES



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THE COPPER ESKIMOS

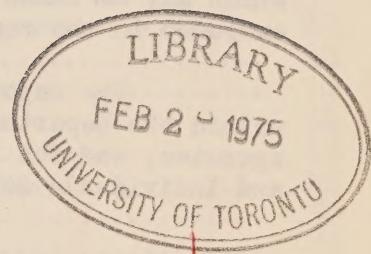
AN AREA ECONOMIC SURVEY

1963

by
G. Abrahamson

with contributions by

P.J. Gillespie
D.J. McIntosh
P.J. Usher
H.A. Williamson



The opinions expressed in this report are those of the authors and not necessarily those of the Department of Northern Affairs and National Resources.

Industrial Division,
Department of Northern
Affairs and National Resources.

Ottawa, February, 1964.

PREFACE

This report is another of a series of Area Economic Surveys carried out by the Industrial Division of the Department of Northern Affairs and National Resources.

These surveys are a continuing part of the Department's efforts to determine the basis for local economic and social progress in the northern areas. Basically, the surveys are intended to:

- (1) assess the renewable resources as to their ability to sustain the local population.
- (2) to determine the degree of exploitation of these resources and the efficiency of their use.
- (3) investigate and explain the social and economic factors affecting resource utilization.
- (4) recommend ways and means whereby the standard of living of the local people may be improved.

As the reasons for these surveys are practical, the material presented in the reports is selected for its relevance in this respect; much academic material gathered in the course of the investigation which may be taken into account in the deliberations is necessarily excluded in the reports.

The report is published in its present form primarily for use within the Department, for distribution to other interested Government agencies, and for limited distribution to Universities, organizations and individuals actively interested in northern affairs.

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INTRODUCTION

The basic reasons underlying the program of area economic surveys have been set out in the preface. An important additional reason for this survey was the Hudson's Bay Company's announced intention to close, for economic reasons, its trading post at Bathurst Inlet.

Since the introduction of a trading and trapping economy the movements of Eskimo groups across the region have been closely linked to the opening and closing of trading posts. Thus, the removal of trading facilities at Bathurst Inlet would result in the virtual depopulation of the area. One function of this survey is to study the social and economic implications of the Bathurst Inlet Eskimos remaining where they are.

The region covered by this report consists of Victoria Island, and the mainland of Arctic Canada north of the treeline between approximately longitudes 102° west, 118° west, and latitude 65° north.

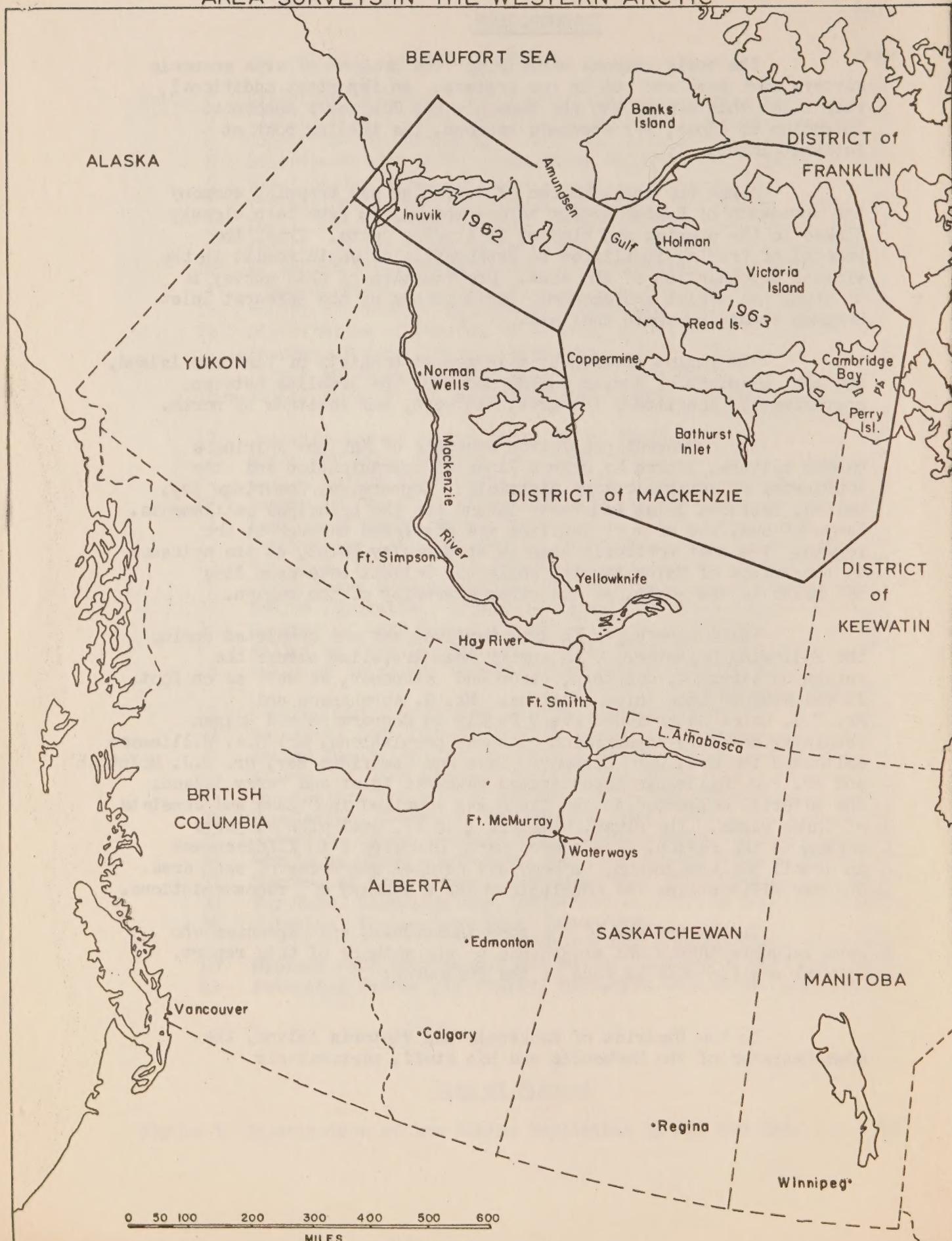
The permanent population consists of Eskimos sharing a common culture, linked by common lines of communication and the boundaries of administrative districts. Coppermine, Cambridge Bay, Holman, Bathurst Inlet and Perry Island are the principal settlements. Camps of one, two or more families are scattered throughout the region. The most northerly camp is at Berkeley Point, at the entrance to the Prince of Wales Strait, while the Pellatt Lake camp lies 350 miles to the south, at the other extremity of the region.

Field work began in late May 1963 and was completed during the following September. The survey team travelled across the region by aircraft, dog team, canoe and schooner, as well as on foot. It was divided into three sections. Mr. G. Abrahamson and Mr. P.J. Usher interviewed every family in Coppermine and Holman obtaining complete enumeration of these populations, Mr. H.A. Williamson collected the data for Contwoyto Lake and Cambridge Bay, Mr. D.J. McIntosh and Mr. P.J. Gillespie investigated Bathurst Inlet and Perry Island. The material collected in the field was compiled in Ottawa and consists of three parts. The first, Chapters I to IV, deals with subjects common to the region. The second part, Chapters V to XII, discusses in detail the background, economy and natural resources of each area. Chapter XIII contains the conclusions and a summary of recommendations.

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MAP 1
AREA SURVEYS IN THE WESTERN ARCTIC



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Chapter I

PHYSICAL GEOGRAPHY

Geology, Structure and Physiography

The mainland part of the region under discussion, except for the area north of Coppermine, is the northwest edge of the Canadian Shield. The Shield area consists of very old rocks. The landscape between the Rae River and Dismal Lakes is very distinctive, consisting of shales and red sandstones, interspersed every few miles by diabase dykes and sills. The dip of these intrusives is such that they have weathered to produce spectacular scarpland topography, with the scarp facing south and the shallow dipslope facing northward. Such formations account for the September and Coppermine Mountains; for many of the rapids on the Coppermine River, including Bloody Falls; and for all the islands in Coronation Gulf and even a small part of Victoria Island north of Richardson Island. Scarps of the same series also form the coastline from Coppermine to Tree River and on through the Jameson Islands. The Tree River area consists of contorted sedimentary rocks, and between there and Bathurst Inlet, the bedrock is granite. This granite area extends inland to the Contwoyto Lake area, where it reaches a general elevation of 1000 - 1500' above sea level, although local relief is not great. Around Contwoyto Lake, there is a variety of mineralized formations. Scarpland topography occurs again around Bathurst Inlet, where there are many high cliffs. East of Bathurst to Perry Island is granite country. The Kent Peninsula is a low lying, poorly drained area, dipping gradually north to the sea.

The region north of the Rae River is made up, for the most part, of flat-lying Lower Paleozoic rocks, as is much of Victoria Island. The landscape is low and rolling, and rather monotonous. Bedrock (mainly limestone and dolomite) seldom occurs at the surface, and where it does it is almost buried beneath its own shattered rubble, thin, hard plates, which quickly lacerate the toughest boots. The only major variation in this landscape on Victoria Island is the Holman Island Syncline, a region of scarps developed on what are primarily diabase intrusives, running from Holman Island to the north end of Hadley Bay.

Broadly speaking, it may be said that rock controlled forms dominate the scenery on the Shield region, and pleistocene glacial deposits are dominant in the paleozoic areas. There are, of course, some glacial forms on the Shield such as moraines and particularly eskers, which are striking in their abundance. The Paleozoic areas, however, are largely covered with deep glacial till. Drumlin fields are numerous and in some cases spectacular. Post-glacial emergence in this part of the Arctic has amounted to hundreds of feet. In the Shield areas where bedrock generally occurs at the coast, this emergence is not readily detected. Where the shore line consists of till or limestone rubble, however, the raised beach lines are ubiquitous and well preserved.

Vegetation

All major gradations of the tundra occur within the region. Southwest of Dismal Lakes and the Coppermine River, the tundra merges

with the boreal forest. The main species here is white spruce. The trees also follow the valley of the Coppermine to within 25 miles of its mouth. Just beyond the tree line, heavy stands of willows may be found in sheltered places. At the mouth of the Coppermine, some are at least 4' in height. Willows also occur at the mouth of the Rae and Richardson Rivers; a region which is called Fadlek by the Eskimos, meaning roughly the place where there are willows. Willow stands are also known at the head of Minto Inlet on Victoria Island.

South of Coppermine, there are various types of tundra grasses and bogs on the flat areas between the scarps. North of Coppermine, the vegetation is sparse, and across the straits on Wollaston Peninsula, grasses occur only under optimum conditions. This last area appears from both the air and the ground as an immense, arid wasteland. Much of the Holman Island Syncline is bare rock and devoid of vegetation, but the head of Minto Inlet and the area north of it is better vegetated, and tundra grasses are far more abundant.

Major River Systems

The Rae and Richardson Rivers

The Rae rises between Dismal Lake and the Dease Arm of Great Bear Lake. It flows northward to the 68th parallel and then swings east. The Richardson rises northwest of Dismal Lakes and flows northward for a short distance until it curves east and flows parallel to, and about 10 miles south of, the Rae River. The easterly courses of both rivers are controlled by the scarps in the area, and the two rivers have a common mouth in Richardson Bay, just northwest of Coppermine. The Rae, which is the longer of the two, is about 150 miles in length. At the mouth, there is a noticeable difference between the two rivers. The Rae is deeper and fairly clear, while the Richardson is shallow and muddy. The first rapids on the Rae are close to the mouth, but the Richardson is probably navigable by small boat for about 30 miles. Both rivers in their upper reaches are shallow and probably can be forded at low water.

The Coppermine River

The Coppermine River is the biggest river in the region. It rises at Lac des Gras, south of Contwoyto Lake, flows through a number of lakes including Point Lake, and then winds its way to the sea, flowing over 400 miles in all. The river flows without a major drop until it reaches the Big Bend, where it begins its real descent to the sea. Swift water occurs at various spots before reaching the Rocky Defile Rapids - a spectacular canyon of about one quarter mile in length. Below this the river becomes sluggish again, flowing through a maze of shoals where the Kendall River enters. The river deepens and narrows as it passes between the September and Coppermine Mountains. After the river turns north again, it drops 800 feet in its last 60 miles to the sea. The Muskox Rapids occur first, and then the Sandstone Rapids a few miles farther on. Between Sandstone Rapids and Escape Rapids, a distance of

about 20 miles, the river is generally unnavigable. Rapids alternate with shoals, and the sheer walls of the canyons in this stretch of the river make it one long portage. Once up on top, it is often not possible to descend the cliffs where there may be a mile or so of navigable water. The only major rapids after this stretch is the Bloody Falls, which, while not actually a falls, is certainly the most dangerous water on the entire river. It is 11 miles from the mouth.

The delta of the Coppermine consists of a few low lying islands of mud, the larger are covered with vegetation. Some of the islands have small hills which are, in fact, a continuation of the scarp on which the village of Coppermine is situated. The main distributary is the west channel, which flows directly in front of the settlement. The east branch may be forded at low water.

The water of the Coppermine is quite clean, except that in spring it becomes very muddy in its last 10 miles or so where it flows through silt banks. However, by August the water at the mouth is relatively clear again.

The Tree River

The Tree River has its source in a maze of lakes about 60 miles south-westward of the Coronation Gulf. The river can be navigated by small boats for a few miles, but rapids occur six miles from the mouth, and a short distance above them is a falls of about 16 feet.

The Hood and James Rivers

The Hood River, draining into the southwest side of Arctic Sound, has its source among numerous lakes about 100 miles to the westward. The river's mouth is hidden by a number of low, sandy islands and flats which constitute a delta about one and a half miles wide. The first rapids are about seven miles up from the mouth, and thirteen miles farther up stream, the Hood River spills over the 160 foot Wilberforce Falls. Willows up to 8 feet in height grow along its banks. The James River is about equal in length to the Hood River, and runs a course parallel to it. It joins the Hood River ten miles from its mouth.

The Burnside River

The Burnside River is about equal in length to the Hood and James Rivers. It has its source in Contwoyto Lake and follows a winding course to its mouth in Bathurst Inlet. Close to its mouth the river runs between clay banks, 100 to 200 feet high. Like most of the other rivers in the region, the Burnside River has many sandbars and rapids making it virtually unnavigable.

The Ellice River

The Ellice River has its source in a system of lakes 160 miles inland. It drains over a series of rapids into Queen Maud Gulf, but is navigable for about 8 miles from its mouth.

The Perry River

The Perry River is only 80 miles long. It drains MacAlpine Lake and then flows northward into Queen Maud Gulf. It is navigable by canoe for a distance of up to 20 miles from its mouth.

Rivers of Victoria Island

There are no major river systems on Victoria Island. Dunbar (1957, p. 207) describes the drainage of Victoria Island as "very confused" and rivers as "following poorly defined courses". With the exception of the Kugyuar River, all streams considered as being economically important in this report are a series of lakes rather than true rivers. The Kugyuar River is about 160 miles long. It rises close to the Shaler Mountains in the northern interior of Victoria Island and then flows south, and thence west into Minto Inlet. It is navigable by small boats for about 2 miles from its mouth.

Climate

Temperature, Precipitation and Visibility

Two criteria for delimiting the boundary of the Arctic and the sub-Arctic are the northern-most limit of trees, and the fifty degree isotherm for mean daily temperatures in July. These boundaries broadly coincide throughout the north and this is no less true of the survey region. The tree line swings from north of Great Bear Lake to the Kendall River and south-eastwards along the Coppermine, with the exception of the immediate valley of the Coppermine which is wooded to within 25 miles of its mouth; the 50 degree isotherm follows roughly a line from Dismal to Contwoyto Lakes. By either criteria, the region now inhabited by the Copper Eskimos lies entirely within the Arctic region. In general it may be said that the climate becomes increasingly harsh towards the northeast part of the survey area.

Climatic data for the region are relatively sparse. Detailed records are available for Coppermine from 1930, Cambridge Bay from 1940, and rather less detailed records for Holman from 1940. DEW Line sites have also recorded weather since their beginning. Climatological tables for Coppermine and Cambridge Bay are included at the end of this chapter.

There are two outstanding characteristics of the climate of this region. One is that the winter is characterized not by its extreme severity, but by its extreme length. The months of December and January are colder at such sub-Arctic stations as Whitehorse, Fort Good Hope, and Yellowknife than at Coppermine, and the record low at Winnipeg is four degrees colder than that at Holman, 1500 miles to the north. This is, of course, due to the fact that this is primarily a maritime region. However, if we take winter as that period during which mean daily temperatures are below 32°F., then this season is just over eight months at Coppermine, and almost nine months at Cambridge Bay and Holman. This compares with about five months in Edmonton.

The other notable aspect of the climate is the very low precipitation. Total annual precipitation ranges from 5 to 11 inches in the survey region, decreasing to the northeast. Such figures would, under a temperate regime, result in desert conditions. Slightly over half the total precipitation at all stations is in the form of snow; this snow is very fine and granular. Rainfall is heaviest in July and August.

Cloudiness is significantly greater at all stations from June to October than during winter. Coronation Gulf and Victoria Island tend to be characterized either by a completely clear or a completely overcast sky. The mainland is more likely to experience continental summer weather - hot summer days, heavy cumulus clouds, and occasional thunder storms. Fog is most frequent from April to September, and is particularly associated with the open water period. The most dominant wind direction in the region is west, followed by east. Holman experiences very frequent east winds; these are probably gravity winds caused by air rolling off the interior plateau to sea level.

Daylight and Darkness

The relationship of daylight and darkness varies considerably between latitudes 65° and 73° north, the approximate boundaries of the survey. Contwoyto Lake, just south of the Arctic Circle, experiences long days in summer and long nights in winter, but sunrise and sunset occur every day of the year. At Coppermine, the sun is above the horizon continuously for six weeks in summer and below it for the same period in winter, although even on the shortest day, there is twilight for three to four hours. Further north the extremes become greater, and no Eskimo who has wintered at Richard Collinson Inlet fails to remark of the difficulty of travelling in December and January when there is no twilight at all. Under such circumstances the snow-reflected light of the full moon in winter is taken advantage of for travelling whenever possible.

Tides and Currents

Tides throughout the western Arctic are negligible. Reports at various stations indicate tides of from $1\frac{1}{2}$ to 3 feet, but 2 feet is the most common. Water level is affected more by winds than by tides. A high wind, particularly a northwesterly of a few days duration, will raise water levels in Coronation Gulf by at least 4 feet.

Currents are also of minor significance in the region. Coronation Gulf, Dease Strait and the Queen Maud Gulf are characterized by a weak easterly drift. Currents in Bathurst Inlet set northerly, reflecting the drainage of several rivers into it. In narrow channels between islands these currents may reach 4 to 5 knots. Strong currents occur near the Lambert Islands at the western entrance of Coronation Gulf.

Break-up and Freeze-up

The snow melts in May, and the rivers begin to run in June, rendering overland journeys by sled impossible, but the sea remains in winter's grip until July and even August in some parts of the Survey region. The first melting takes place at river mouths, where warmer fresh water gradually melts the ice in a widening radius. Soon the whole shoreward edge of the sea-ice has melted, and canoe travel is feasible by hugging the shore-line. Cracks in the ice have appeared by this time, and the ice is covered with pools of water. The pack is now affected by winds, which both break it up and move it about. Sometimes, in the space of a few days, a heavy wind smashes the ice to bits which quickly melt. In other cases the broken ice may linger till late in the summer, to be blown from place to place depending on the winds.

At Coppermine the river melts the ice in front of the settlement around mid-June, although the ice a few miles out is still solid. The first open water over a considerable area generally occurs in early July at the western entrance to Coronation Gulf, where there are strong currents. During July ice remains in varying concentrations in Amundsen Gulf, Dolphin and Union Strait, and the western part of Coronation Gulf, but by the end of the month these waters are largely ice-free. To the east, toward Dease Strait, the process occurs a little later in the season. The southern part of Bathurst Inlet opens in early July, and the northern part late in July. The Queen Maud Gulf is seldom completely ice-free, and drifting pack ice from there may affect Dease Strait even late in the season. The western side of Victoria Island may also suffer from drifting ice in August due to late break-up in Prince Albert Sound, Minto Inlet, and Prince of Wales Strait, except for the heads of bays. The north and east sides of Victoria Island are never ice-free, and navigation is possible only in good ice years.

Some average dates for break-up and freeze-up are given below. It should be noted that dates vary considerably from year to year.

Walker Bay	late July	early Sept.
King's Bay	July 1-15	Oct. 1-10
Prince Albert Sound	Aug. 1	early Sept.
Read Island	mid-July	Oct. 25
Bernard Harbour	early July	mid-Sept.
Coppermine	mid-June	early Oct.
Tree River	July 10	early Oct.
Cambridge Bay	July 20	Sept. 15
Bathurst Inlet (Settlement)	late June	late Sept.

Large cargo vessels sail these waters until late September. August, however, is the best month for small schooner navigation, as September tends to be very stormy.

Freeze-up takes place over a period of a few weeks, beginning with thin ice formation in bays and river estuaries, until thick solid ice covers the sea. Snowfalls begin in September and in a few weeks the

ground is well-covered. The sea-ice reaches a maximum thickness of 6 to 6 1/2 feet in late winter, when all waters in the Survey region are frozen, other than very local spots where a current may keep a small area open. The only major exception is Amundsen Gulf, where leads and open water may occur at any time in the winter within a few miles of Victoria Island.

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Table 2
Climatological Table for Coopertine

Month	Air Temperature at Station Level		Precipitation No. of Days with	WIND DIRECTION														
	Mean of daily extremes	Absolute extremes		Percentages hourly, observations daily	N	NE	E	SE	S	SW	W	NW						
Jan.	-19	-11	-26	21	-54	0.6	0.90	6	*	7	3	2	22	7	15			
Feb.	-20	-13	-28	34	-58	0.4	0.20	4	1	7	2	1	11	28	26	8	15	
Mar.	-14	-6	-22	29	-45	0.7	0.87	7	1	8	5	2	7	24	21	6	22	
Apr.	1	10	-8	46	-42	0.6	0.35	5	2	7	6	10	3	5	18	20	9	22
May.	22	29	15	63	-24	0.5	0.71	5	3	14	12	19	3	3	12	11	11	15
June	39	45	32	82	5	89	0.9	2.50	1	3	13	18	22	4	7	6	12	14
July	49	57	42	87	31	65	1.4	1.35	*	2	16	18	3	4	9	10	13	9
Aug.	47	53	40	80	27	86	1.7	1.37	*	2	16	17	6	6	14	10	13	6
Sept.	36	41	31	72	7	90	1.2	0.72	4	2	14	9	13	6	9	15	13	17
Oct.	19	25	14	57	-28	94	1.2	1.30	10	1	9	4	9	10	11	22	15	11
Nov.	-4	3	-12	36	-42	0.8	0.33	8	1	11	3	8	4	9	26	25	8	6
Dec.	-16	-9	-23	31	-49	0.5	1.01	5	1	7	3	4	2	5	28	27	8	16
Mean	12	19	5							11	8	11	4	7	19	17	10	13
Extreme or Total																		
No. of Yrs.	30	30	30	30	30	9	30	9	30	10	13	13	13	13	13	13	13	13
Obsns.																		

An asterisk (*) indicates an average occurrence of less than 0.5, but greater than 0.

Source: PILOT OF ARCTIC CANADA, Volume III, 1961

Table 3
Climatological Table for Cambridge Bay

Month	Air Temperature at Station Level			Precipitation Days with			Wind Direction														
	Mean of Daily	Absolute Extremes	Mean of Daily	Max. Total	Max. Fall	in 24 Hours	Mean Snowfall (inches snow)	Fog Vis. 1 Km. (vis. 1 Km.)	Hourly Observations Daily	Means of 24	W	SW	S	SE	E	NE	N	W	NW	Calm	
Jan.	-25	-19	-33	21	-63	0.3	0.47	3	1	18	4	7	5	5	5	5	5	5	32	23	1
Feb.	-28	-21	-36	11	-59	0.2	0.22	2	1	14	6	9	6	7	7	6	7	6	19	19	2
March	-20	-12	-26	21	-52	0.2	0.23	2	1	22	13	13	10	5	6	5	6	5	15	16	0
April	-7	2	-16	13	-42	0.2	0.12	2	1	20	16	15	8	6	6	6	6	6	17	12	0
May	15	22	8	45	-31	0.3	0.21	3	2	14	13	12	4	3	3	3	4	3	17	16	1
June	36	41	30	72	6	84	0.5	0.61	3	2	21	14	14	6	6	6	6	6	19	17	0
July	46	52	40	75	30	68	1.1	1.10	-	3	22	11	10	10	10	10	10	10	14	12	9
Aug.	44	50	38	76	16	89	0.9	1.21	-	3	17	14	13	12	9	10	10	13	12	0	
Sept.	31	35	28	58	7	96	0.6	0.41	3	2	14	15	15	12	8	5	5	5	16	14	1
Oct.	21	17	5	39	-25	0.6	0.50	6	3	21	15	16	5	6	3	3	5	15	19	0	
Nov.	-10	-1	-16	27	-11	0.5	0.47	5	2	16	14	18	6	7	5	5	7	20	13	1	
Dec.	-22	-15	-29	18	-57	0.3	0.16	3	2	20	13	16	5	4	4	4	4	4	21	13	2
Year	6	13	-1							19	12	14	8	6	6	6	6	6	19	15	1
Extreme or Total				76	-63	5.7	1.21	32	23												
No. of Obsns.	14	14	14	37	37			10	17	10	10	10	7	7	7	7	7	7	7	7	7

Source: PILOT OF ARCTIC CANADA, Volume III, 1961

Chapter II

HISTORY, STATUS AND DISTRIBUTION OF THE COPPER ESKIMOS

The country of the Copper Eskimos may be said to consist of Victoria Island, and, with the exception of the Back River watershed, the mainland north of the tree line between approximately longitudes 102° west and 118° west, and latitude 65° north.

A common culture, and especially the intensive use of native copper instead of stone for implements and weapons, distinguished them from other Eskimo groups, and led Stefansson (1919, p. 33) to coin the term "Copper Eskimo".

Prior to 1910, the country inhabited by the Copper Eskimos had been explored by about a dozen parties. Their travels were of short duration and spread over a period of 150 years. Their influence upon traditional life of the Copper Eskimos was negligible. Scientific knowledge of the area was virtually non-existent until Stefansson and Anderson explored the western portion in 1910-11 and then returned in 1914 as leaders of the Canadian Arctic Expedition.

The early explorations are summarized below: Captains Klengenberg, Mogg, and Bernard, all former whalers, entered the area as traders rather than as explorers, but their accounts and activities gave incentive to the scientific parties and traders who followed in their paths.

Date	Exploring Parties	Areas Explored
1770-71	Hearne	Overland to mouth of Coppermine R.
1821	Franklin	Coppermine R. to Turnagain Point on Kent Peninsula.
1826	Richardson & Kendall	Mackenzie to Coronation Gulf, return via Coppermine R. to Fort Franklin.
1833	Back	Descended Back (Great Fish R.) River to coast.
1838-39	Dease & Simpson	Coppermine R., along coast to beyond Back R.
1848	Richardson & Rae	Mackenzie R. to Coppermine R. to Great Bear Lake.
1849-50	Rae	Mainland coast; Cape Lambert to Cape Alexander. South coast of Victoria Island; Cape Back to Cape Alfred.
1851	McClure	Prince of Wales Strait between Banks Island & Victoria Island.
1851-53	Collinson & Jago	Walker Bay, Prince Albert Sound, and Cambridge Bay.
1902	Hanbury	Ogden Bay to Coppermine R. to Great Bear Lake.
1905-06	Klengenberg	Cape Kendall and southwest Victoria Island.
1908	Mogg	Minto Inlet.
1910-11	Stefansson & Anderson	Dolphin & Union Strait, Prince Albert Sound, Coronation Gulf, and overland from Coppermine R. to Great Bear Lake.
1910-14	Bernard	Mouth of Coppermine, Bernard Harbour, and Cape Kendall.

Source: Jenness, 1922, pp. 28-31

During the 1920's, two major investigations provided detailed assessments of the population and wildlife. Rasmussen journeyed through the region along the mainland coast by dogteam in the winter of 1923-24, and Hoare made extensive dogteam and boat journeys in the region between 1924-26. Their major findings concerning the material culture amplified information recorded by the Canadian Arctic Expedition. The references to the Copper Eskimos of the early 20th century are Stefansson (1951), Jenness (1922), Rasmussen (1932), and Hoare (1927).

The traditional Copper Eskimos had only recently adapted to a marine mammal culture. They continued to rely heavily upon caribou and, to a lesser extent, fish, from May until November. Seal hunting techniques were not as advanced as among other Eskimo groups. Hunting took place during the winter months from snowhouse villages on the sea ice. Seals were harpooned at breathing holes. Kayaks were not used for open water seal hunting.

The region never supported a dense population in comparison to those areas where the harvest of whales and walrus permitted large caches of food and large permanent communities. The Copper Eskimos were among the most nomadic people in the Canadian Arctic.

The Copper Eskimos consisted of groups named for the localities they traditionally frequented in spring. There was much contact between groups. Contacts beyond their own region extended east to as far as Igloolik and south to the Thelon River area, primarily for purposes of trade. In direct contrast they did not trade or have contact with western Eskimos within recollectored time.

Caribou migrated from the mainland to Victoria Island in large numbers. Favoured crossing places were at various points along Dolphin and Union Straits and along Dease Strait. The Copper Eskimos gathered at these crossing places in the spring and autumn. When the migration of mainland caribou to Victoria Island ceased in the late 1920's, the Eskimos suffered hardships despite the availability of imported foods brought in by the traders.

Following the Canadian Arctic Expedition of 1914, the country of the Copper Eskimos was quickly opened up. Within a decade, traders, missionaries, and the R.C.M. Police were firmly established. In addition to the established posts of the Hudson's Bay Company, the Canalaska Trading Company, and the Klengenberg family, there were numerous independent trapper-traders, who operated from schooners often termed floating posts. Their activities, however, were sporadic and did not endure. The advance of white men into the area is outlined below.

- 1914 Canadian Arctic Expedition: base at Bernard Harbour. First wooden house on that part of the coast.
- 1915 Anglican Mission: Bernard Harbour. Took over Canadian Arctic Expedition house 1916.
- 1916 H.B.C.: Trading post at Bernard Harbour. Klengenberg: Trading post mouth of Coppermine R.
- 1917 Northern Trading Company: Trading post at Tree R. H.B.C.: Trading post 12 miles east of Tree R. at Aggiyak. Moved to Tree R. when above closed.
- 1919 R.C.M. Police: Detachment at Tree R.
- 1920 H.B.C.: Trading post on Kent Peninsula.
- 1921 H.B.C.: Trading post on Cambridge Bay.
- 1922 H.B.C.: Trading post, Fort Brabant, Prince Albert Sound.
- 1923 Klengenberg: Closed Coppermine post. Opened posts southwest (Rymer Point) and southeast Victoria Island.
- 1924 DeSteffany Bros.: Floating post at Ellice R.
- 1925 H.B.C.: Outpost at Western R. and floating post at mouth of Coppermine R.: Klengenberg: closed southeast Victoria Island post and moved to island at entrance to Bathurst Inlet.
- 1926 H.B.C.: New post Ellice R. Permanent post at Coppermine R. Canalaska Trading Co.: Trading posts in Bathurst Inlet and at Perry R.: R.C.M. Police: moved Tree R. detachment to Bernard Harbour and opened one at Cambridge Bay.

Source: W.H.B. Hoare, 1927, pp. 33-34.

Jenness (1922) predicted a rapid collapse of traditional life after the penetration of permanent white establishments. Although many basic aspects of traditional life did give way, particularly in the non-material culture, the Copper Eskimos continued to base their material life on the renewable resources of the area. Changes between 1920 and 1950 produced important alterations within the Eskimo way of life, but did not radically alter it; this period is aptly called contact-traditional by anthropologists. Changes during this period have had some far reaching consequences, which shed light on present day problems.

As in every other area in the arctic, the introduction of fire-arms created as many problems as it solved. According to Hoare (1927) the rifle was primarily responsible for altering the migration routes of the caribou, upon which the Copper Eskimos had been so dependent. Lead caribou were shot in the mountain passes on the mainland. The trailing bands of caribou turned aside to seek fawning grounds on the mainland, where depredation by wolves, eagles, and humans was greater than on Victoria Island. Mass movement of caribou to Victoria Island ceased during the 1920's. There was a short resurgence at the beginning of the 1930's, but it did not last. When the caribou failed to migrate to Victoria Island, Eskimos from both western and eastern portions of the Island moved to the mainland. Eskimos who remained on Victoria Island, and those who later returned, became more and more dependent upon the mainland Eskimos for their supply of skins for clothing. They also had to depend on other sources of food.

The most significant introduction into the contact-traditional period was the fur industry. The barter of furs provided the sole means by which the Copper Eskimos could obtain European goods. Trapping gradually replaced traditional winter activities. In place of large seal hunting villages on the sea ice, individual families spread out to the interiors of the mainland and Victoria Island, and along the coasts. Trapping demanded far greater mobility than former winter activities. In order to cover long traplines at a period when there is little daylight, the Eskimos increased the size of their dogteams. The Copper Eskimos originally kept no more than 2 or 3 dogs per family (Stefansson, 1951). They were used for seeking out the seal's breathing hole, and as pack animals. Journeys in traditional days were not so hurried as to demand large sleds and teams to haul them. By the 1940's, teams of 8 dogs were not uncommon, and a few families maintained as many as 14 dogs. The larger number of dogs increased the pressure on the caribou herds and hastened their decline. Although imported food prevented starvation it was not equal in value to the caribou meat it replaced.

Another outgrowth of the contact-traditional period has been the gradual development of permanent settlements, culminating in today's modern administrative complexes. These settlements grew around a nucleus of trading posts, R.C.M. Police detachments, and missions. They became the focal points of trading areas into which Eskimos traded and visited. Until the 1950's, they remained largely deserted for most of the year. In recent years, the Copper Eskimos have gradually abandoned their seasonal movements and have become identified with the growing trading centers.

The break with contact-traditional life came in the 1950's. Events rapidly brought about irrevocable changes in the way of life of the Copper Eskimos. Construction of the DEW Line triggered the swift departure from contact-traditional activities and profoundly altered the basic fabric of the subsistence economy based entirely

upon renewable resources. Many young men increased their economic status to an unprecedented high level during construction days, only to be left in limbo when employment opportunities were curtailed in the operational phase of the DEW Line. They had come to depend upon wage employment while losing the inclination and in some cases the ability to return to the land. Some of the older men, who had formerly been successful trappers, did return to the land successfully.

The Present Status and Distribution of the Eskimo Population

At the close of 1914, Jenness (1922, p. 42) estimated the Copper Eskimos to number between 700 and 800 individuals. Subsequent counts were carried out by Rasmussen in 1923, and in later years by the R. C. M. Police and other agencies.

Table 4 shows some of these counts. The figures given should be used with caution. Over the years, the boundaries of census districts changed, and there is some uncertainty as to which groups of Eskimos are included in the counts of 1941 and 1951. The 1956 and 1961 figures indicate only those Eskimos actually in the survey region while the 1963 census taken by the Area Survey includes not only all Eskimos in the survey region during July 1963, but also those in southern hospitals, as well as DEW Line employees and their families beyond the boundaries of the survey region who are Copper Eskimos that would return to their traditional areas if their employment on the DEW Line were to cease.

Table 4

Copper Eskimo Censuses

1914 - 1963

1914	700-800 ¹
1924	816 ⁺²
1941	793 ³
1951	919 ³
1956	900 ³
1961	939 ³
1963	1115 ⁴

Source: 1.Jenness, Canadian Arctic Expedition
 2.Rasmussen, Fifth Thule Expedition
 3.Dominion Bureau of Statistics
 4.Area Economic Survey

During the present century migrations to and from the region appear to have been of little consequence. In the 1920's and 1930's a small number of western Eskimos arrived to trap and trade, and about six families moved into the Perry Island trading area from the Adelaide Peninsula. During the 1940's and 1950's about half a

dozen Copper Eskimo families went to the Mackenzie Delta to become reindeer herders. During the same period a dozen more families moved east or west to the adjacent territories of King William Island, Banks Island, and the Parry Peninsula. These last areas, however, appear to have been hunted over by groups of Copper Eskimos from time to time, and movement to them can hardly be considered as true migrations, especially since families wander back and forth at will, and may at any time return to the survey region.

Permanent and seasonal population shifts within the region have been of great significance, and are discussed in later sections of this report. In the summer of 1963, the population was distributed along the radar sites of the DEW Line, and within six distinct areas as shown in map 2 and Table 5 below.

Table 5
Distribution of Eskimo Population by Area
Summer 1963

Coppermine	357
Cambridge Bay	265
Holman	132
Bathurst Inlet	97
Perry Island	77
Contwoyto	49
DEW Line	138

21
MAP 2
POPULATION & TRADING AREAS

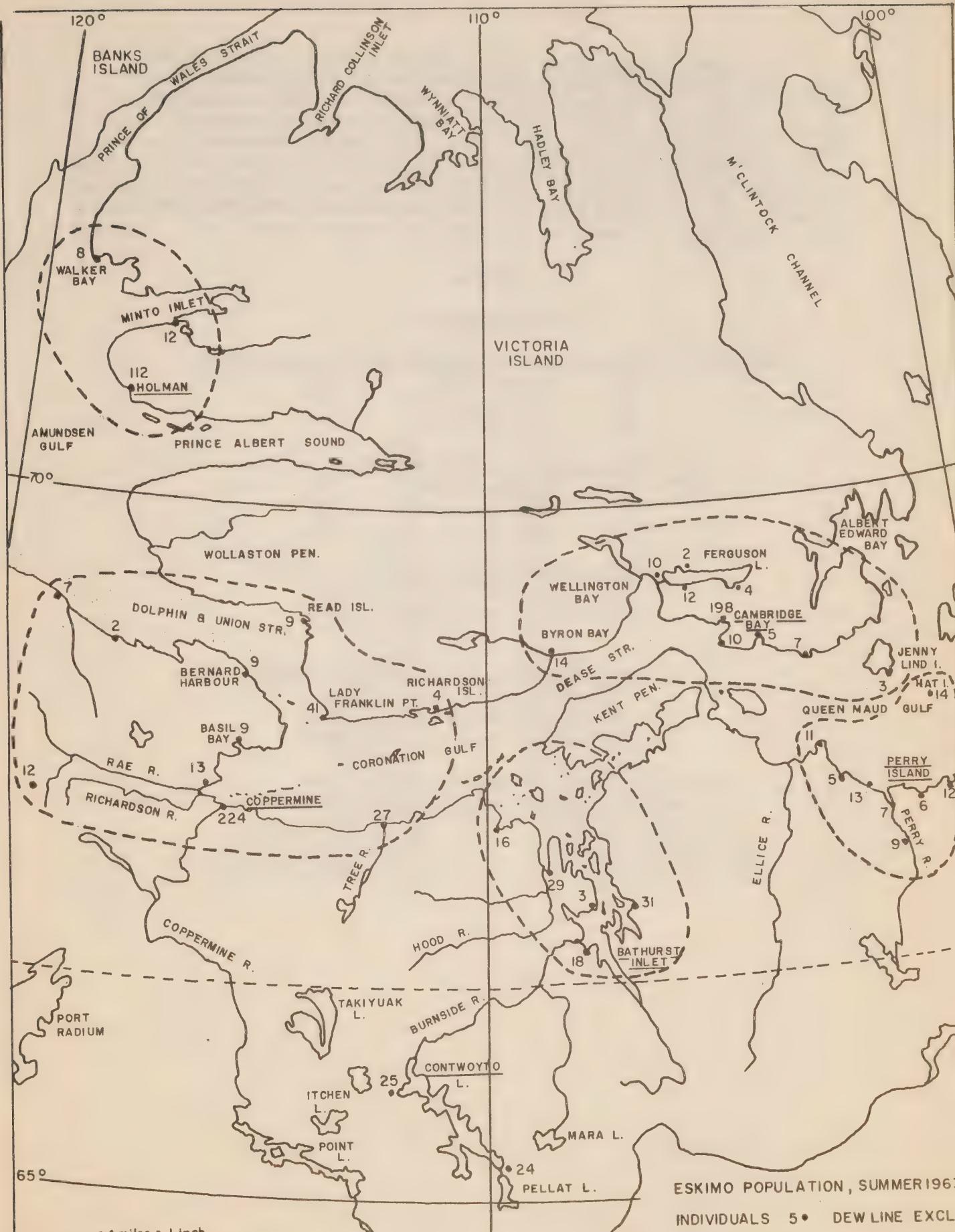


Table 6 illustrates the population's vital statistics and shows that its rate of natural increase is exactly twice that for the rest of Canada. It compares rates with those for Canadian Eskimos, and for Canada as a whole. While the Copper Eskimo rates do not differ significantly from those for Canadian Eskimos, there are startling differences in the rates for the Canadian population. The Copper Eskimo birth rate is almost two and one half times the national rate, the death rate is three times the national rate, and infant mortality is almost seven times the national rate.

Table 6

Vital Statistics

Birth rate per 1000 population

61	Copper Eskimo	1962
61	All Can. Eskimo	1962
26	All Canada	1961

Death rate per 1000 population

25	Copper Eskimo	1962
23	All Can. Eskimo	1962
8	All Canada	1961

Infant mortality per 1000 live births

186	Copper Eskimo	1962
194	All Can. Eskimo	1962
27	All Canada	1961

Natural increase per 1000 population

36	Copper Eskimo	1962
38	All Can. Eskimo	1962
18	All Canada	1961

Source: Registrar of Vital Statistics, M.W.T.; and Northwest Territories Council, Sessional Paper No.VII, 1963.

The structure of the population is illustrated in figure I. The youthfulness of this population is striking. Almost 50 per cent is under 15 years old, the all Canada rate for this age group is 33 per cent. Because of this young population, the generally declining death rate, the high birth rate, and the improved medical facilities that are planned, it is reasonable to assume that the increase in population will accelerate sharply in the next few decades.

Figure I
Distribution of the Eskimo Population by Age and Sex

Number	Age Group	Number
14	65+	10
13	Male	11
8	60-64	10
24	55-59	11
33	50-54	11
45	45-49	22
29	40-44	28
31	35-39	19
40	30-34	29
38	25-29	40
46	20-24	48
56	15-19	52
83	10-14	62
<u>114</u>	5-9	90
<u>574</u>	0-4	<u>110</u>
		541

Chapter IIIADMINISTRATION, COMMUNICATION AND TRANSPORTATIONAdministration

The Northern Administration Branch of the Department of Northern Affairs and National Resources (N.A. & N.R.) is responsible for the general services of Government in the Northwest Territories. Specialized services are provided by the Departments of National Health and Welfare (N.H. & W.), Transport (D.O.T.), Public Works (D.P.W.), and the Royal Canadian Mounted Police (R.C.M.Police).

As illustrated in map 3, the region covered by this report consists of two administrative areas, those of Coppermine and Cambridge Bay, as well as Contwoyto which falls into the Yellowknife administrative area. The Administrators of these areas report to the Regional Administrator in Yellowknife who, in turn, is responsible to the Administrator of the Mackenzie in Fort Smith. This official is in charge of the Mackenzie District as well as of Banks and Victoria Islands. He reports to the Director of the Northern Administration Branch in Ottawa.

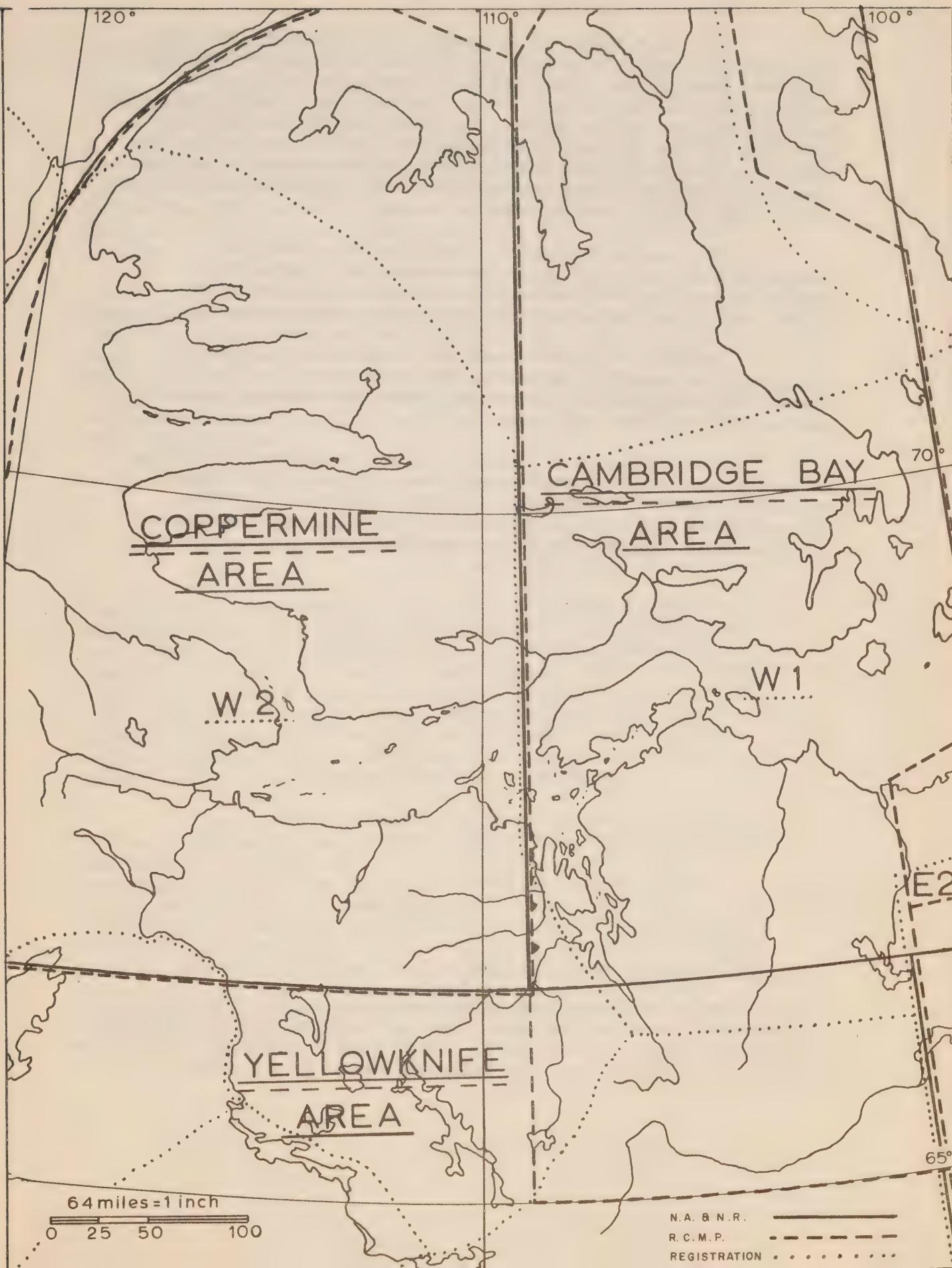
The Area Administrator's primary function is to implement the established policies, to make proposals for new programs or policies and to report on what goes on in his area. He has rightly been described as "Jack of every trade of Government".¹ His duties are as varied as the Arctic summer's day is long. He must supervise work projects, requisition materials and supplies a year in advance, arrange transportation for patients to hospital and students going to school, dispense relief, distribute family allowance cheques, visit outlying camps, give advice, mediate disputes, organize public meetings, meet tourists and visiting dignitaries, and consult with officials of other departments.

The Northern Health Service of the Department of National Health and Welfare is charged with seeing that essential medical and health services are made available to the population. For administrative purposes, the Department of National Health and Welfare has set up Health Districts, and these, in this case, correspond roughly with the areas of Coppermine and Cambridge Bay as administered by the Department of Northern Affairs. Nursing stations, staffed by registered nurses, are maintained in both centres and serve the population of the surrounding area. Doctors from Yellowknife or Fort Rae hold periodic clinics at these stations, and dentists may make occasional tours. X-ray surveys designed to combat the spread of tuberculosis are carried out in the region during the spring of each year by a team from the Charles Camsell Hospital in Edmonton.

¹

R.G. Robertson in Journal of the Institute of Public Administration of Canada. December 1960, Vol. 3, p. 357.

MAP 25 3
ADMINISTRATION



The R.C.M.P. Police is responsible for the maintenance and enforcement of Federal statutes and Territorial ordinances in the Northwest Territories. There are two detachments in the survey region, and the districts under their jurisdiction coincide with the Northern Affairs administrative areas of Coppermine and Cambridge Bay, (Map 3). The Coppermine detachment is the most easterly of the Inuvik sub-division, while the Cambridge Bay detachment is the most westerly of the Baker Lake sub-division. Both sub-divisions belong to "G" Division with headquarters at Ottawa.

The detachments usually consist of a corporal and constable, and one Eskimo guide-interpreter with the title of special constable. Regular patrols are made, by dog team in winter and by boat in summer, throughout the detachment area.

Members of the Force maintain the district's vital statistics, and compile the Eskimo disc list¹ annually. On behalf of the Territorial Government, they issue hunting licences and collect royalties on fur exports.

The Department of Transport is the fourth and last of the Government agencies having permanent bases in the survey region. It maintains stations at Coppermine and Cambridge Bay to provide meteorological information, navigation radio aids, air-to-ground, ship-to-shore, and point-to-point communications.

1

Since Eskimos have no family names, and change names occasionally, a system of numbering for identification purposes has been introduced. Lists are compiled by registration areas, and show Eskimos in the area by location, family, age, sex and registration (disc) number.

Communications

Radio Facilities

A network of high frequency radio facilities covers the survey region. The Department of Transport's stations at Coppermine and Cambridge Bay provide radio service for these settlements, and relay telegrams to and from Holman, Bathurst Inlet, Perry Island, and to and from ships and field parties in the area.

At Holman, Bathurst Inlet, and Perry Island, the Hudson's Bay Company radio system handles government and commercial messages to and from Coppermine or Cambridge Bay. This system may also be used to communicate with other Hudson's Bay Company posts, or as is the case at Holman, with the R.C.M. Police. The Department of Transport radio stations handle Federal Government business free of charge. To all other traffic, the following rates apply:

Full rate -- \$2.25 for the first ten words
.13 for each additional word

Night letter -- \$2.25 for the first 50 words
.45 for each additional 10 words

Over and above these rates, the Hudson's Bay Company charges an additional \$1.50 for 50 words and 25 cents for each additional 10 words sent via its radio system. The R.C.M. Police detachments operate their own high frequency radio system, and observe regular schedules with their respective headquarters at Inuvik and Baker Lake. The Roman Catholic Missions at Coppermine, Cambridge Bay and Holman are all part of a radio network linking them with other Oblate Missions in the Mackenzie and the Hudson's Bay Vicariate. A schedule of two transmissions a day is maintained.

Pacific Western Airlines operates a radio navigation beacon at Contwoyto Lake to bridge the gap between the beacons at Cambridge Bay and Yellowknife. This station also collects meteorological data, and advises aircraft of current weather conditions, and relays commercial messages to Yellowknife. A Game Management Officer based at Pella Lake, 35 miles to the south of Contwoyto Lake, maintains a twice-daily schedule with Yellowknife over the Mackenzie District Forestry Radio System. It should be noted that from time to time, changes in the ionosphere cause communication black-outs in the region which may last from a few minutes to several days.

The Distant Early Warning (DEW) Line, which spans the survey region from east to west operates what is primarily a defence network, but its facilities are available to government agencies by prior arrangement, or to civilians in case of emergencies. Its station at Cambridge Bay is connected to the Trans-Canada Telephone System radio relay chain by scatterwave making it possible to phone any place in the world from Cambridge Bay.

In early 1963, Canadian National Telecommunications began working on a 554 mile tropospheric scatterwave hook-up designed to link Lady Franklin Point with the Canadian National Telecommunications centre at Hay River on the south shore of Great Slave Lake.

Finally, no description of the region's communication network is complete without mention of the "ham" operated transmitters found at almost every DEW Line site.

Broadcasting Stations

The Northern Service of the Canadian Broadcasting Corporation operates standard-band radio stations at Yellowknife and Inuvik. A daily short wave broadcast for northern listeners originates in Sackville, N.B., and carries national and international news, regional weather forecasts and standard CBC programs. This station is tuned into by whites possessing short wave receivers, but is of less interest to Eskimos. The station at Yellowknife, CFYK, is of low power, 250 watts, and is thus only heard sporadically in the region.

CHAK at Inuvik operates on a power of 1,000 watts, and is avidly listened to in Coppermine, Cambridge Bay, Holman, Bathurst Inlet, and Perry Island. This station broadcasts programs in the Eskimo language, transmits messages from children in the Inuvik school hostels to their parents, and carries regular features of regional interest. Reception of this station varies with the season, being generally good in the fall and winter, and poor in early summer.

Mail Services

Pacific Western Airlines hauls mail from Yellowknife on its regular twice monthly flights into Coppermine and Cambridge Bay. Holman, Bathurst Inlet and Perry Island have no regular mail service. Holman's mail is delivered by aircraft from Coppermine on a space available basis. Mail for Bathurst Inlet and Perry Island is brought from Cambridge Bay by any aircraft flying in. Thus the arrival of mail at and from these settlements will vary from several times a month during summer to once every two or three months during winter.

Regional Transportation

Water Transportation

Transportation into the region is by water and air, but the bulk of the region's freight is brought down the Mackenzie River as far as the Arctic coast by flat bottomed river boats and barges. At Tuktoyaktuk, this freight is transferred to sea-going ships for distribution to settlements along the coast as far east as Spence Bay.

Two ships supply the civilian needs of the region. The "Banksland" with a registered tonnage of 440, and the 166 ton "Expeditor". The former was owned and operated by the Hudson's Bay Company Transport Division for several years, but during 1963 was under charter to the Crown-owned Northern Transportation Company. For some years, the smaller "Expeditor" ran as a ferry between Hay River and Yellowknife. It was subsequently rebuilt, and is now used to pull a covered deck barge along the Arctic coast. This vessel is owned by Arctic Shipping Limited, a private company.

Both companies publish sailing and route schedules, but their actual itineraries are controlled by ice and weather conditions. In an average year navigation along the Arctic coast begins during the last week of July and continues until the latter part of September.

The "Banksland" generally makes three trips a year. Its first is from Tuktoyaktuk to Cape Parry, Coppermine, Bathurst Inlet and Cambridge Bay, (Map 4). The second trip supplies Sachs Harbour and Holman. The last trip is also its longest; the "Banksland" then calls at Cambridge Bay, Perry Island, Gjoa Haven, Spence Bay and returns via Cambridge Bay and Coppermine to winter at Tuktoyaktuk.

The "Expeditor's" schedule is more elastic, and in the past has varied from year to year. It carries less freight but delivers bulk fuel to Coppermine and Cambridge Bay. It is the only ship on the western Arctic coast prepared to carry tourists. The company's prospectus states that: "For this truly great (tourist) adventure on the Arctic Ocean there will be no choice as to destination or schedule."

Only a few of the many small schooners that once hauled local cargo remain in the region. Local transportation is provided by outboard powered canoes and speed boats, or by jolly-boats equipped with small inboard engines.

The following tables set out freight rates by boat from points south to settlements in the region as well as local rates within the region.

30
MAP 4
TRANSPORTATION

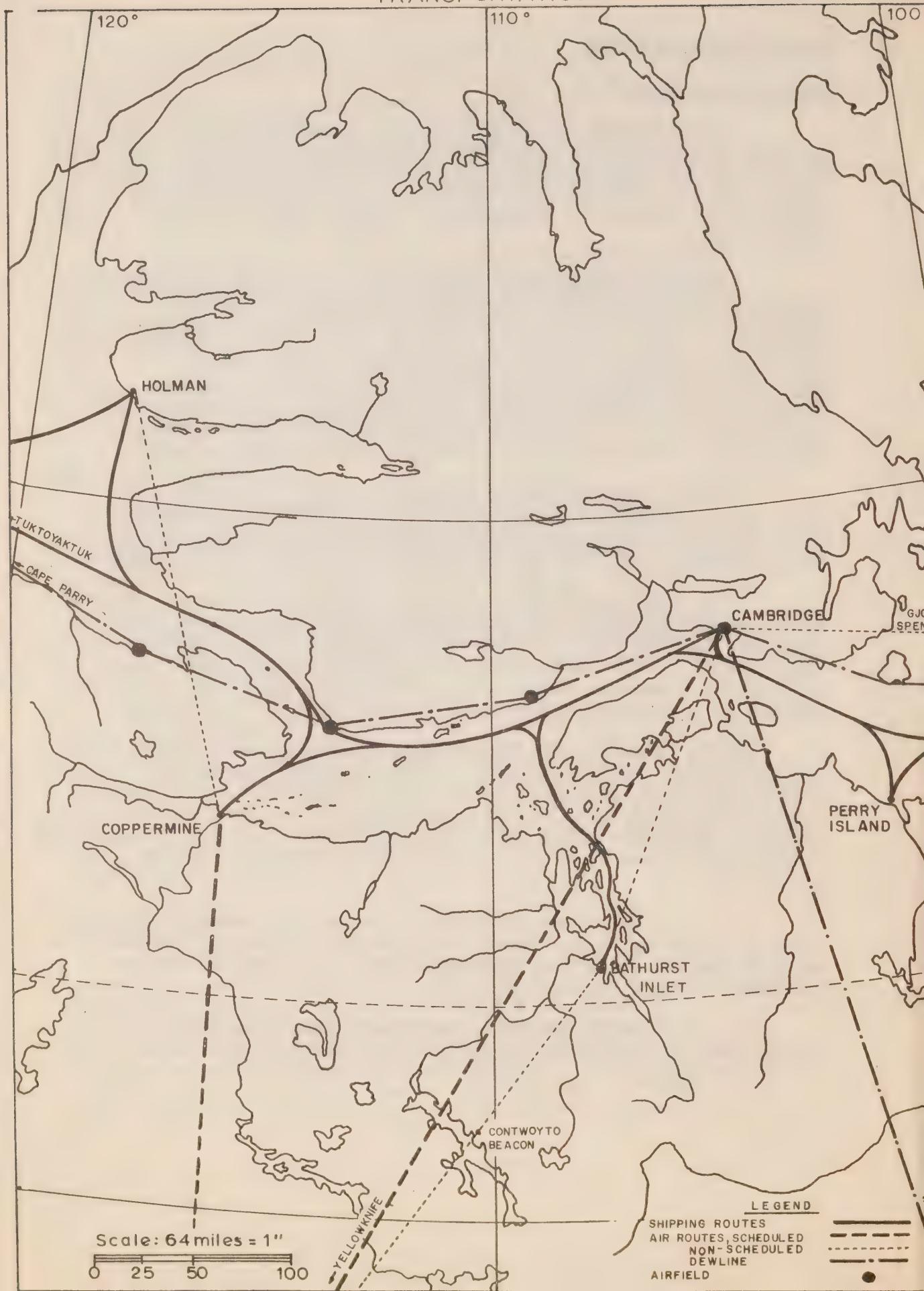


Table 7

Through Rates From Waterways, Hay River and Norman WellsIN DOLLARS PER 100 POUNDS -- Class 5*

To:	Ex Waterways	Ex Hay River	Ex Norman Wells Oil in drums & in bulk	
Holman	6.35	5.40	4.95	3.50
Coppermine	6.35	5.40	4.95	3.95
Bathurst Inlet				
Cambridge Bay	7.05	6.10	5.70	4.30
Perry Island	6.80	5.85	5.45	4.30
	7.60	6.55	6.45	4.85

*Class 5 freight classification covers the bulk of equipment and supplies. Higher rates apply to insulating materials, boats and other bulky articles.

Source: Freight Tariff & Classification, Western Arctic,
Northern Transportation Co. Ltd. 1963

Table 8

LOCAL FREIGHT RATES IN DOLLARS PER 100 POUNDS

	Tuktoyaktuk	Cape Parry	Sachs Harbour	Holman	Coppermine	Bathurst Inlet	Cambridge Bay	Perry Island	Gjoa Haven	Spence Bay
Tuktoyaktuk	-	1.55	2.70	3.35	3.35	4.05	3.80	4.60	5.20	5.40
Cape Parry	1.55	-	1.35	1.55	2.90	3.15	3.15	3.60	4.05	4.50
Sachs Harbour	2.70	1.35	-	2.25	3.60	4.05	4.05	4.95	5.60	6.05
Holman	3.35	1.55	2.25	-	2.45	3.15	3.15	3.35	4.05	4.25
Coppermine	3.35	2.90	3.60	2.45	-	2.25	2.25	2.90	3.15	3.15
Bathurst Inlet	4.05	3.15	4.05	3.15	2.25	-	2.25	2.90	3.15	3.35
Cambridge Bay	3.80	3.15	4.05	3.15	2.25	2.25	-	1.80	2.45	2.70
Perry Island	4.60	3.60	4.95	3.35	2.90	2.90	1.80	-	1.35	2.00
Gjoa Haven	5.20	4.05	5.60	4.05	3.15	3.15	2.45	1.35	-	1.10
Spence Bay	5.40	4.50	6.05	4.25	3.15	3.35	2.70	2.00	1.10	-

Source: Freight Tariff & Classification, Western Arctic,
Northern Transportation Co. Ltd. 1963.

Air Transportation

Regular passenger, mail and express air services to the region are maintained by Pacific Western Airlines throughout the year. Every second and fourth Thursday of each month, a DC-4 aircraft from Yellowknife lands on the airstrip at Cambridge Bay. Coppermine does not have an airstrip and is therefore serviced in summer by an Otter on floats, or an amphibious Grumman Goose, and in winter by a ski equipped Otter. Pacific Western Airlines timetable indicates flights to Coppermine every second and fourth Friday. During the summer of 1963, traffic was heavy enough so that an aircraft arrived at least once a week.

Air service to the region's other communities is on a charter basis. Pacific Western Airlines stations an Otter in Cambridge Bay, and this aircraft serves, amongst other sites, Bathurst Inlet and Perry Island. Flights to Holman are arranged by extending the bi-monthly flights into Coppermine. Contwoyto Lake is serviced by charter from Yellowknife; the frequency depending on mining and other activities in the area. By and large, all other regional charters originate in Yellowknife which is the main base of seven charter airline companies.

The DEW Line system has its own air service, TransAir, which flies weekly from Winnipeg to Cambridge Bay. Lateral re-supply flights along the Line take place twice a week. Government personnel may use these travel facilities on a space available basis by prior arrangement.

The system's airports are spaced 50 miles apart in a line running from east to west across the region. The intermediate sites closed down in 1963 so that although all landing strips remain, manned stations providing radio navigation and other aids are now 100 miles apart. Operators of civilian aircraft wishing to use these airports must obtain advance permission from DEW Line headquarters.

A significant change in the pattern of transportation has taken place since the construction of the DEW Line and the building of an all-weather road to Yellowknife. Much of the work formerly done by sea vessels is now done by DC-4 aircraft flying out of Yellowknife. Cambridge Bay is serviced throughout the year, Coppermine and Holman are supplied in March and April by DC-4 aircraft landing on the sea-ice. The effect of this has been twofold; it caused boat operators to lower rates, and allowed traders to reduce their inventories, and to bring in fresh fruit, vegetables and meats.

Another change has been the recent introduction into the area of Otter and Beaver type aircraft equipped with large low-pressure wheels. These permit landing on any unprepared but moderately level surface and will overcome the isolation suffered during periods of break-up and freeze-up by small settlements without permanent airstrips.

Table 9 shows Pacific Western Airlines fares, freight and express rates. A more detailed table listing Yellowknife charter companies, aircraft and bulk freight rates may be found in the appendix.

Table 9
Pacific Western Airlines
Fares and Rates 1963

Yellowknife to:	Fare One way	Express per pound	Freight	
			A	B
Coppermine	\$110	.60	N .40	\$40
			S .40	\$40
Cambridge Bay	\$62	.60	N .30	\$23.70
			S .15	\$11.80
Edmonton	\$56	.30	N .18	\$14.97
			S .09	\$ 7.65

Note: "A" in cents per pound. Applicable to shipments less than 100 pounds.

"B" in dollars per 100 pounds. Minimum weight 100 pounds. Graduated reductions for loads over 1800 pounds.

"N" northbound

"S" southbound

Overland Transportation

Overland transportation is local, being confined to traplines, and to travel in the settlements and around their peripheries. The various outside agencies operate trucks, tractors and bombardiers; the missions and a number of individuals use motor toboggans, but the most important mode of transportation remains the dog sledge.

The average team consists of seven dogs hitched double tandem to a komatik which may vary from six to sixteen feet in length.

Chapter IVAN ECONOMIC INTRODUCTION

The chapters to follow show that most of the Eskimo population depends on the primary activities of trapping, hunting and fishing. This is particularly true of the smaller communities, such as Bathurst Inlet, but no less true of Coppermine and Cambridge Bay where the picture is masked by the relatively large wages earned by the few in steady or casual employment.

Cash income from the land comes primarily from white fox, and, in recent years, from sealskin. The income from both commodities fluctuates according to the fancy of fashion and the caprice of nature. While a trapper's catch of fox varies within a wide range from year to year according to the cycle of the animal, the price he receives per pelt does not reflect either scarcity or abundance, and he derives no benefit from the laws of supply and demand. During the past 20 years the average price paid for white fox has fallen from a high of \$36 in 1945 to a low of \$5 in 1950. During the past 12 years the price of this fur has recovered to fluctuate between \$10 and \$20. (N.W.T., Game Management Service, 1962) During the same period, however, the cost of trapping equipment and the supplies necessary to sustain a man and his family on the land for several weeks or months at a time has steadily risen. Thus, increased operating costs and declining or unstable fur prices have lead trappers to prefer the easier life in the settlements where wage employment, or relief, and the amenities of community living are available.

Traps are still set, but lines are shorter and are confined to the land around settlements. This land is heavily trapped while remote areas are neglected.

The world-wide demand for sealskins made itself felt in the survey region only during the past year. Until that time, traders showed little interest, and the seal was used for food and fuel. Beyond what was needed to meet the clothing requirements of hunters little attention was paid to its skin. The surplus was discarded, or fed to dogs. Today, when the local traders are paying prices as high as \$28 for a well prepared sealskin, the value of sealskins spoiled by careless handling amounts to thousands of dollars, and upsets administrators and traders alike. However, the force of habit cannot be broken overnight, and the financial return from sealskins will remain less than its potential until a thorough program of education in the treating of skins has been carried out.

At one time caribou skins provided the hunters of Bathurst Inlet and Contwoyto Lake with a dependable source of revenue, but the declining herds, and government enforced conservation measures have

reduced the magnitude of this trade to the point where the export of caribou skins from the region has all but ceased.

Caribou are still hunted for food throughout the region, and moose are taken on the mainland. Ringed seal and fish such as char, trout and whitefish, and to a lesser degree game birds, form an important part of the people's diet. However, the time when Eskimos could depend on the natural resources of the country alone are long past. In Coppermine and Cambridge Bay, income from wage employment on construction projects, on the DEW Line, and from jobs with government departments exceeds the income from the land. Nowhere are employment opportunities keeping pace with the expanding population. Most families rely on social security payments such as Family Allowances for children, Old Age Assistance, and Disabled and Blind Persons Allowances. In many cases this is not enough, and heavy relief expenditures have been required to support the population at a standard of living which still falls far below that enjoyed by other Canadians.

To strengthen and diversify the economy, the Department of Northern Affairs has initiated resource harvesting projects, and encouraged co-operatives. These have provided a new source of income, especially from handicrafts and fishing. Tourism, too, is promoted by the Department of Northern Affairs but the benefits deriving from this industry are only just beginning to be noticed in the region.

To stimulate the economy, and to help the Eskimos in their period of transition, the Department of Northern Affairs has established schemes which provide them with financial assistance for a variety of purposes. These schemes may be summarized as follows.

The Eskimo Loan Fund

Money from the Eskimo Loan Fund is made available for the purchase or repair of equipment required in any gainful occupation, for the purchase or repair of buildings and furnishings, for the purchase of food and camping supplies, and for the formation of co-operative associations.

Loans are made at five per cent interest, and are repayable within five years, or within ten years in the case of housing loans or loans to co-operative associations. Applications for loans are reviewed by an Eskimo Loan Fund Advisory Board. An individual may borrow up to \$10,000; correspondingly bigger loans are made to groups, up to a maximum of \$50,000 for co-operative associations.

Low Cost Housing Program

This program aims to provide reasonable standards of housing throughout the north. As far as Eskimos are concerned, only very few

can afford houses under the National Housing Act. Therefore, a variety of prefabricated houses has been designed to meet a standard somewhere between that laid down by the National Housing Act, and above that of the shacks now occupied by most Eskimos.

The basic designs vary from one-room to three-bedroom houses; all are equipped with at least chemical toilets, water tanks, and sinks. The cost ranges from \$1,500 to \$7,000. The government subsidizes each house in the amount of \$1,000. The balance of the cost is covered by the contributed labour of the Eskimos, and by funds borrowed from the Eskimo Loan Fund.

A common design in the region is the "plan 370" unit. This is a 12 foot by 24 foot one-room house costing \$2,000. This unit is also the smallest house to which the Federal Government subsidy applies. Deducting the subsidy from the cost price, and the value of the Eskimo's contributed labour, calculated at \$500, the cost of this house to the owner is no more than \$500 plus interest, a sum which may be repaid over a period of ten years.

Wherever possible people who cannot afford to buy a house, such as invalids or others on permanent relief, are provided with a "plan 370" house, fuel and general services. The costs of these are charged against the funds of the Welfare Division of the Northern Administration Branch.

Eskimo Small Boats Assistance

To help overcome the chronic shortage of boats required to harvest the resources of the sea the Department of Northern Affairs, in 1963, initiated a program to assist Eskimos to obtain boats and small vessels.

The scheme involves a system of grant, loan, and down payment. The purchaser of a boat makes a down payment amounting to 20 per cent of the cost price, while the balance is financed by a government grant of 40 per cent, and an equal amount from the Eskimo Loan Fund.

Under the program a purchaser must submit plans of the boat he wishes to buy for approval by a technical committee, or select a boat from one of six basic designs built to the specifications of this committee. These designs range from gasoline or diesel powered 26 foot open trap boats to 46 foot long liners. Although the government grant in no case exceeds \$8,000 to any one individual, a number of people may get together to buy a boat such as a long liner.

Fuel Oil Subsidy

In addition to these schemes of financial assistance, the Department of Northern Affairs has brought about a significant reduction in the price of fuel oil throughout the region.

Since the cost of oil shipped in drums involves heavy expenditures, not only in freighting the drums themselves, both in and out, but also in expenses such as interest on the capital tied up, damaged drums, and the extra labour required to load and unload, the Department of Northern Affairs resolved some years ago to erect, as part of an overall program, bulk oil storage tanks for its own use at Coppermine and Cambridge Bay.

It also decided that at a relatively small additional cost, the size of the storage tanks could be increased to supply fuel at a lower price to private consumers as well. The Hudson's Bay Company agreed to purchase bulk oil from the Department's tanks, and to retail it at one price to private consumers through all its stores in the region. Thus, by means of price equalization, the benefits of cheaper oil at communities with bulk storage facilities are shared with those communities which do not have them.

Since October 1962, the retail price of fuel oil, which used to range from 80 cents to \$1.40 per gallon across the region has been available to all at .79 per gallon. As the housing program progresses, the lower fuel price will afford important savings to many Eskimos.



Coppermine - Eskimo House of Canvas
and Scrap Lumber.



Holman - Plan 370 House built by Department
of Northern Affairs for indigent
Eskimos.



Coppermine

Busse Photo



Cambridge Bay

N.F.B.

COPPERMINE, N.W.T.

SCALE

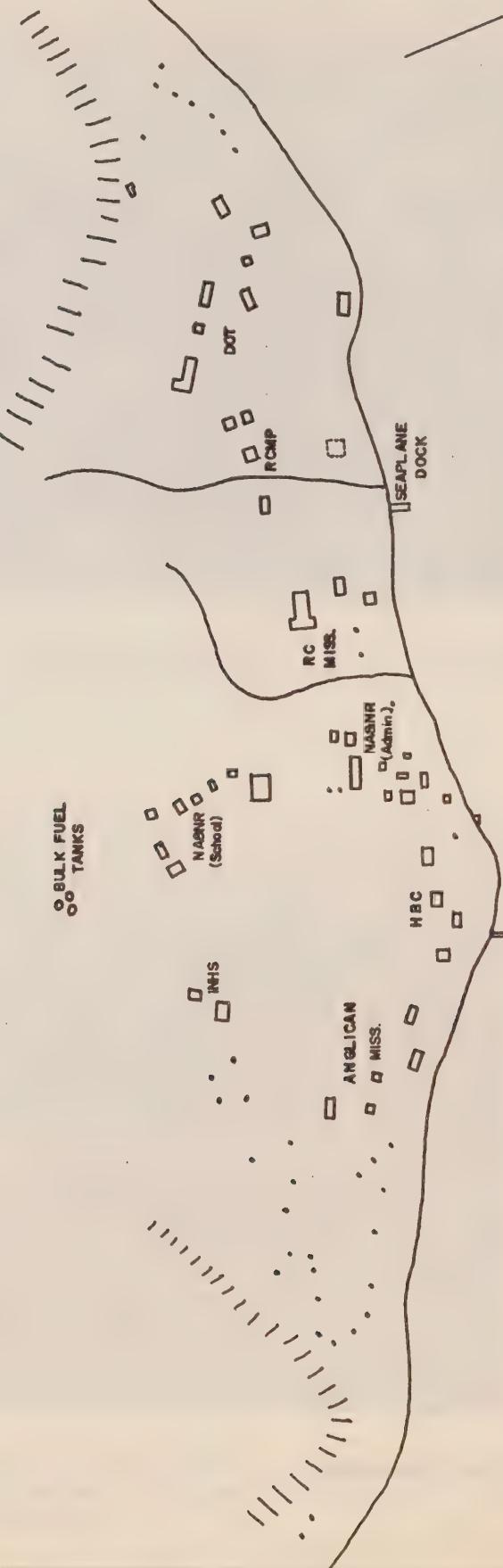
0 250 500 1000 ft.

1:60000 approx. 1" = 500'

MAP 5

ESKIMO HOUSING

BULK FUEL
TANKS



CORONATION GULF

Usher-63

Chapter VTHE COPPERMINE TRADING AREAThe Settlement of Coppermine

In 1916 the trader and trapper, Charles Klengenberg, (MacInnes, 1932, p. 276) built a small trading post at the present site of Coppermine, presumably with the intention of intercepting some of the fur being traded into the Hudson's Bay Company post at Bernard Harbour 70 miles to the north, where trading had begun during the same year. At this period Bernard Harbour, having been the headquarters of the Canadian Arctic Expedition from 1914 to 1916, was the only settlement of any consequence in the area. An Anglican Missionary arrived there in 1915, and took over the Canadian Arctic Expedition's buildings a year later.

In 1928, after an epidemic had wiped out more than half the people at Bernard Harbour, the surviving Eskimos fled to Coppermine where the Hudson's Bay Company had opened a post a year earlier. In 1929 the Anglican Mission followed, and, during the same year, the Roman Catholic Church arrived to establish its first permanent mission among the Copper Eskimos.

A government appointed doctor opened a six-bed hospital in 1929, which functioned until his resignation two years later.

In 1930, the government built a radio and meteorological station. A year later the R.C.M.P. moved in from Bernard Harbour and the settlement of Coppermine was well established.

A nursing station was opened in 1948, followed by a Federal Day School in 1950. Finally, in the fall of 1959, the Department of Northern Affairs appointed a resident administrator.

During the 47 years of its existence and growth, the security and opportunity the settlement offered served to depopulate its hinterland at an ever accelerating rate.

Population Shifts in the Coppermine Trading Area

Before the introduction of the fur trade the Eskimos were dispersed across the land in single units, or in groups of two or three families and thus used to best advantage the meager resources their country had to offer. Compared to the Eskimos to the west of them, the Coppermine people may still be considered nomadic; a family is camped here today and gone tomorrow, but nevertheless the growth of Coppermine and its facilities, coupled with the decline of the fur trade, and the subsequent closure of all trading posts but one, reinforced by the failure of the caribou herds of the interior, has led to the continued concentration of Eskimos in the settlement. When Rasmussen (Rasmussen, 1932) travelled across the country in 1923, he found 46 Eskimos at Tree River, 88 around the mouth of Coppermine River, an unknown number between Krusenstern and

Bernard Harbour, 83 lived off the country north and east of Read Island, and another 30 were camped in the vicinity of Richardson Island. Forty years later only 133 of the 357 Eskimos in the area lived outside the settlement of Coppermine.

In the spring of 1963 the tendency to gather in the settlement was reversed when, through the encouragement of the Area Administrator, a number of families moved back to hunting and fishing grounds which had lain abandoned for several years.

The Residents of Coppermine and Camps

In the summer of 1963 the white members of the Coppermine community numbered 25 adults and 13 children. All whites were attached to the various departmental, religious or trading establishments, and are shown below in order of their numerical strength.

The Department of Transport

- 4 Single Meteorological Technicians
- 2 Single Radio Operators
- 1 Radio Operator, Wife and 2 children
- 1 Single Cook
- 1 Single Maintenance Mechanic

The Department of Northern Affairs & National Resources

- 1 Single Area Administrator
- 1 School Principal, Wife and 4 Children
- 1 Single School Teacher

The Royal Canadian Mounted Police

- 1 Corporal, Wife and 2 Children
- 1 Constable and Wife

The Hudson's Bay Company

- 1 Post Manager, Wife and 3 Children

The Anglican Mission

- 1 Minister, Wife and 2 Children

Northern Health Services

- 2 Single Nurses

The Roman Catholic Mission

- 1 Priest

With the exception of the missionaries and the Hudson's Bay post manager, none of the whites had been in Coppermine for more than two years, and their predecessors' tour of duty seldom exceeded this.

The Eskimo population of Coppermine consisted of 51 families totalling 224 individuals.¹ Twenty-six other families made up of 133 individuals were scattered in ten separate camps along the coast hereafter referred to as the Coppermine trading area.

The Eskimo population is discussed in terms of families that, as such, are economic units. This unit generally consists of a man, his wife, and their children who may be juveniles or unmarried adults, and may, at times, include a widowed parent or other aged relative.

Eskimo Camps in the Coppermine Trading Area

The extent of the Coppermine trading area is here defined by those Eskimo camps that in July, 1963, obtained their supplies from the Hudson's Bay post at Coppermine. Map 2 shows these camps on both shores of Coronation Gulf, and Dolphin and Union Strait.

On the south shore from east to west:

5 families	numbering	27	individuals	were camped at	Tree River
1 family	"	9	"	"	" Basil Bay
4 families	"	13	"	"	" Rae River
2	"	9	"	"	" Bernard Harbour
2	"	9	"	"	" Imman River

On the north shore from east to west:

1 family	numbering	4	individuals	were camped at	Richardson Island
7 families	"	41	"	"	" Lady Franklin Point
2	"	9	"	"	" Read Island
2 other families	of 12 individuals	had their camp 90 miles west of	Coppermine	between the Rae and the Richardson Rivers.	

In the early months of 1963 five families consisting of 27 individuals were attracted from Coppermine to Contwoyto by the activities of mineral exploration crews in that area. While these families outfitted in Coppermine, and are included in the tables

¹ Total of individuals per family is based on the disc list for the W2 Eskimo Registration District issued by the R.C.M.P. in January, 1963.

illustrating the sources of cash income in the trading area for a twelve-month period, they are not considered to be part of the Coppermine trading area during July, 1963, since they then obtained their supplies from Yellowknife.

Also excluded are those families, dealt with in chapter **X** who, during the year covered by this report, were permanently employed on the DEW Line.

The Status of the Camps

The two biggest and most important camps in the Coppermine trading area are Lady Franklin Point and Tree River.

Lady Franklin Point

Lady Franklin Point contains the ruins of many old Eskimo houses, and the site has a history of more or less continuous settlement. The importance of this camp increased in 1954 when a DEW Line site was established nearby. During the year of the Survey, another population influx was brought about by the employment opportunities created through the construction of Canadian National Telecommunications' terminal station of a system linking Victoria Island with Hay River.

Since the closing of the trading post on Read Island in 1962, the Lady Franklin group has traded at Coppermine, 66 air miles to the southwest. In winter, this means two days travel by dog team, while in summer unfavourable winds may delay travellers for many days.

Though cigarettes and sweets are bought at the DEW Line commissary, frequent visits to Coppermine are necessary to buy food and general supplies such as gasoline.

The arrival of the supply vessel, and the chance of wage employment at stevedoring, prompts the first trip to Coppermine after break-up.

Another trip is made in September and again shortly before freeze-up. During the winter, visits are made monthly, the Christmas and Easter visits being a "must".

The few children from this camp who attend school, do so in Inuvik.

Tree River

Since time immemorial, Eskimo groups have fished the Tree River and hunted the area in the vicinity. In 1917, the Northern Trading Company opened a post that was taken over by the Hudson's Bay Company shortly afterwards. Tree River then became the most easterly port of call of the Company's cargo steamer "Lady Kindersley",

and the post eventually carried sufficient stock to supply the various Hudson's Bay Company posts that were later established around it. Merchandise was shipped once a year from Tree River to these posts by a small schooner.

In 1919, the R.C.M. Police set up a post - the third in the Western Arctic, but Tree River declined in importance with the growth of Coppermine. The R.C.M. Police transferred first to Bernard Harbour, and from there to Coppermine, and in 1928 the Hudson's Bay Company closed its post. By 1957, the remaining Eskimo families abandoned Tree River and moved to locations closer to the trading post at Coppermine.

In the spring of 1963, one of these families, accompanied by four others, was encouraged by the Area Administrator to return to Tree River to take advantage of the fishing there and of a private tourist camp which was then being built.

During the same summer the Tree River camp gave the impression of a thriving community. Each family was drying approximately a ton of char, and the men were earning cash from guiding tourists and the sale of soapstone carvings.

The success of this move back to the land, and the permanence of the Tree River camp will largely depend on the Area Administrator's continued visits to the settlement as evidence to them of his interest in their welfare.

Read Island

Until the summer of 1962, trading posts had operated at Read Island for over thirty years. When the Hudson's Bay Company closed its posts, the fourteen families residing in the area moved away. Some went to Holman, and others settled at Lady Franklin Point, Coppermine or Tree River. In July 1963, only two families remained at Read Island, and a month later these, too, moved to Holman.

Imman River, Bernard Harbour and Richardson Island

Since the DEW Line began, one or two family groups have always camped at or near the various stations, fishing the rivers nearby, scouring the land for caribou and relying at the same time on the radar sites in case of need.

Imman River, Bernard Harbour and Richardson Island are all intermediate sites and, as such, shut down in 1963. How this will affect the distribution of the population remains to be seen.

Rae River

This is a summer camp. The four families here spent the winter in Coppermine, and moved to the mouth of the Rae River in May to fish, to hunt seal, caribou and moose.

Basil Bay

Basil Bay, 16 miles from Coppermine, was the permanent camp of one of the most active trappers in the trading area.

Inland

The two families camping inland between the Rae and Richardson Rivers were there partly because of the Area Administrator's encouragement to return to the land. The family heads were "old-timers" and subsisted on caribou meat.

Eskimo Housing in Coppermine

The Eskimo housing in Coppermine is squalid beyond description. During the winter of 1962-1963, nine families lived in standard frame houses, and these were the only families decently housed. Families occupying these homes did so by virtue of being, or having been, employed by one of the outside agencies represented in Coppermine, or by being persons in need of public assistance.

Thirty-nine dwellings, ranging from a cabin made of the plywood and metal scraps left over from a government construction project to a mean shack of canvas and cardboard were shared by fifty families. Table A in the appendix groups the settlement's families according to the space available in square feet per person. For the thirty-nine homes discussed here the average is 23.3 sq. ft., well below half the 50 sq. ft. considered adequate by health authorities.¹

The average house varied with the inhabitants. Most houses had canvas or cardboard porches with the low set doors. The house itself had one window, either of glass or polyethylene, the floor was either shiplap or plywood, the exterior walls were of canvas, plywood or, more rarely, caribou skin. Insulation, if used, was of moss or paper. A few houses had low exterior walls of sod. In winter most people bank up their houses with snow or snowblocks.

Little furniture is factory made; caribou-skin-covered wooden platforms served both as beds and seats, and packing boxes as chairs. An enamel hand-basin was employed for washing, and water was in buckets or in open ten gallon gasoline drums.

A number of houses had crude stages nearby. These consisted of two fuel drums with a loaded dog-sled placed athwart, a wooden stage of dressed lumber or an enclosure constructed of lumber and chicken-wire.

1 "Eskimo Mortality and Housing" Indian and Northern Health Services, Department of National Health and Welfare, and Northern Administration Branch, Department of Northern Affairs & National Resources, 1960. Also N.W.T. Public Health Ordinance, General Sanitation Regulations

The latter is used to protect drying fish from prowling dogs. It might be appropriate to mention here that dogs in the settlement are kept well tied up, and do not constitute the nuisance so common to many Arctic settlements. With the exception of the public bath-house laundry described elsewhere, sanitary facilities are non-existent. Kitchen and other waste is thrown from the door, and any large rock will shelter people relieving themselves. The appearance of the settlement in spring, at a time when the snow is melting away, defies portrayal. The winter's garbage lies exposed with rivulets of water running through that turn the Eskimo section of Coppermine into a noxious swamp. It is at this time that the people, with few exceptions, abandon their damp shacks to move into tents on higher and drier ground where they stay until fall.

In the summer of 1963, six one-room low cost houses were being built on high, well-drained land. While this relieves a rather grim situation, it is not nearly enough and there is a pressing need for more housing. Additional low-cost houses had been requested by the Area Administrator for 1963, but at the time of the Survey it was doubtful whether these would arrive. During 1963, three houses were also being erected for occupancy by indigent Eskimos. These are necessary, yet it is ironic that widows and old age pensioners should be supplied with a good house and fuel while the young children of a trapper are condemned to live in a cardboard shack.

Fuel

Storms and high tides bring in small quantities of drift-wood but the beaches are quickly picked bare and what little wood is brought down by the Coppermine River must be supplemented by scrap lumber, willows, moss, seal oil and a variety of petroleum products.

The pattern of fuel usage in the settlement is quite distinct. The permanent wage employees and those on permanent relief burn heating oil and nothing else. The remainder use anything combustible. A makeshift contrivance most commonly used consists of a steel drum cut down to half or quarter size, and whatever will burn is fed into it. To encourage combustion heating oil may be led through a small bore copper pipe from a small tank, and fed drop by drop on to the contents of the stove. A few individuals still use the traditional blubber-fed stone lamp. Others use gasoline or kerosene burning camp-type cookstoves.

By using anything capable of burning, combined with a frugal use of heating oil, the average shack may be made habitable throughout the winter on 315 gallons of heating oil.¹

¹ Personal communication: Father Metayer, O.M.I., Coppermine

Health

During the second decade of this century white traders and trappers coming from the west brought with them diseases to which the Eskimos had little or no resistance. The history of the Eskimos' health is a sorry one. Epidemic after epidemic swept through the people decimating entire camps. In 1926 influenza was introduced among them, and killed nearly twenty per cent of the population. (Jenness, ca 1950)

In 1930-31 tuberculosis changed from sporadic and isolated cases to the widespread and epidemic form that within eight months killed 20 of the 100 Eskimos wintering at the mouth of the Coppermine River.

In 1935 measles struck, in 1945 influenza and bronchial pneumonia epidemic, in 1949 another influenza epidemic in the settlement carried off 25 individuals, in 1952 German Measles, in 1954 another flu epidemic and a number of deaths, in 1957 a measles epidemic that killed four people, and along with this the steadily recurring tuberculosis, that year after year disables the most active hunters, sends entire families to isolation hospital and generally enfeebles the community. Tuberculosis remains one of the area's most serious health problems and the incidence of this disease over the years has given the Coppermine area the distinction of having the highest tuberculosis rate in the Canadian North.

Table 10 shows the number of Coppermine Area (W 2) Eskimos discharged annually from isolation hospitals.

Table 10W2 Eskimo Tuberculosis Hospital Discharges

1946	4
1947	1
1948	6
1949	12
1950	9
1951	9
1952	8
1953	26
1954	11
1955	7
1956	9
1957	20
1958	18
1959	11
1960	15
1961	12
1962	24

SOURCE: Personal Communication, Chief, Northern Health Services

Annual X-ray surveys are used to combat the spread and progress of tuberculosis so that this disease, while crippling, is no longer the killer it used to be. As Table 11 shows respiratory infections kill more people than does tuberculosis, but both diseases are related to the inadequate housing described.

TABLE 11
Cause of Death - 1953-1962
(W2 Registration District)

Year	Tuber- culosis			Pneumonia Influenza			Accident			Old Age	Other & Unknown			Still- born & Premat
	I	C	A	I	C	A	I	C	A	A	I	C	A	I
1953	1			2	2					1	1	1		
1954				1	2		1 ^a				1	1		1
1955				2				1 ^s		1	1			
1956	1			6	1						1		1 ^m	1
1957				2	1		1 ^a	1			1	1 ^m	3 ^m	2
1958				2							1		3	
1959				2							1			1
1960	1			4	1		1	1		1	1			3
1961		1		2	1		1 ^a		1 ^s					1
1962				1	3		1	1		1	1			2
	-3	1	22	4	9		4	1	5	4	9	3	7	11

I - Infant (under one year of age)

C - Child (under 16 years of age)

A - Adult

s Suicide

m Measles

a Asphyxiated

SOURCE: Registrar of Vital Statistics, N.W.T.

Since 1929, when a six bed government operated hospital was opened at Coppermine, the people of the area have been able to obtain medical assistance. The hospital closed down in 1931. The Anglican Mission then served as a nursing station for seventeen years until 1948 when the Department of National Health and Welfare established a nursing station. In 1963 this was a four bed unit staffed by two Registered Nurses. A physician from Fort Rae visits the settlement periodically; in theory these visits are monthly, but are actually made four to six times annually.

Seriously ill persons are evacuated by aircraft to the Yellowknife District Hospital. This hospital has a rated bed capacity of forty-four, and provides most medical and surgical facilities.

Education

The Eskimos of Coppermine were first introduced to schooling in the 1920's when a few of them were sent to the Anglican and Roman Catholic Mission schools at Hay River and Fort Providence. They stayed there for several years, and when they returned home, they could talk, read and write English, but had also forgotten the tongue and customs of their own people. During the 1930's and 40's pupils were no longer sent south of the Arctic Circle, but were taken to the mission schools in Aklavik and kept there for the duration of their school years.

Schooling became available to all in 1950 when the Federal Government built a one-teacher school in Coppermine. In 1955 the school was enlarged and a second teacher appointed. Although a school was now in the settlement, few took advantage of the opportunity. In 1960 the Coppermine Area Administrator recorded that, "The school has now been in operation for 10 years and not one Eskimo child has advanced beyond grade 4 in it." The reasons for this were not far to seek and might be listed as poor attendance, the language barrier and high teacher turnover.

Records show that individual school attendance over the years has ranged from 3 days to 189 days per school year. Table 12 lists the number and grade of Eskimo pupils as of March 29, 1963.

Table 12

Coppermine Federal Day School - Pupils by Grade

<u>Grade</u>	<u>Number</u>
0 & 1	25
2	10
3	12
4	-
5	1
Total	48

The above table shows a school enrolment of 48, two Coppermine girls went to school in Inuvik, and two more were sent there from one camp in the Coppermine trading area.

In the school year 1962-63, out of a school age population of 102 in the Coppermine trading area, only 52 received any instruction.

By and large more English is understood than spoken in the area so that grade 0 consists of beginners who have never been to school and generally have little English. Advancement from one grade to another is slow. Pupils may spend two to three years in the first grade and generally drop out after sitting through the third.

Instruction beyond grade 8 is given in Inuvik or by correspondence. Children whose parents live in camps away from the settlement may also attend the Inuvik schools, but parents are generally

reluctant to send their children so far from home. A school hostel was proposed but the plan was cancelled because Coppermine had no permanent landing strip for large aircraft. Other school facilities, however, are being expanded. For the school year 1963-64 a third teacher was appointed, and two additional classrooms were to be constructed.

During recent years there has been no adult education as such, but the present school principal encourages participation by Eskimos in the Co-operative and in community affairs in general.

Mention should be made of the tent hostels operated by the Anglican Church between 1955 and 1959. These hostels functioned from April to August and were designed to provide as many as 40 children from outlying settlements with an opportunity to attend the school in Coppermine.

Vocational Education and Training

Between March 1957 and June 1958, three-month training courses were held in Leduc, Alberta, to teach men the operation and maintenance of heavy equipment to prepare them for jobs on the DEW Line. Eleven men attended and most of them subsequently worked on the DEW Line for varying period of time.

Since 1958 the Sir John Franklin High School in Yellowknife has offered a variety of vocational training courses. Three young men availed themselves of this opportunity; two left before completing the course and the third is currently completing the final year of a motor mechanics course.

Churches

Two churches are officially represented in Coppermine: the Anglican Mission of Saint Andrew, and the Roman Catholic Mission of Our Lady of Lights.

The Anglican Mission, founded at Bernard Harbour in 1915, had a fourteen year start over the Roman Catholic Church, and consequently claims the adherence of 66 Eskimo families (85%) in the Coppermine trading area today.

The missionary-in-charge conducts services in English and Eskimo. He has worked among the Coppermine Eskimos for thirteen years, has travelled widely among them, is familiar with their customs and language and generally commands their respect.

He takes an active part in community affairs, and during 1963, was president of the Coppermine Residents' Association, secretary of the Eskimo Council, and officer-in-charge of the Coppermine Ranger Detachment.

In 1913, the first Roman Catholic missionaries arrived in Coppermine, but were murdered the same year by the Eskimos. It was not until 1929 that the Roman Catholic Mission got established, and its following has always been small. Over the years a number of priests have been in charge of the parish, but all of them have had much experience among the Coppermine and Western Eskimos. Their knowledge of the country, and their interest in the people is equal to that of the other mission.

Criminality

Criminality poses no problem in the area. It suffices to say that during the year 1962 there was not a single prosecution.

The functions of the R.C.M. Police in the survey region have been adequately described in chapter III. It may be added here that during the period under review Coppermine was fortunate in having a corporal in charge of its detachment who was both keenly interested in the welfare of the Eskimo population and aware of his district's resource potential.

Local Organizations

During the summer of 1963 three local organizations were active in the community: the Coppermine Eskimo Co-operative, the Eskimo Council, and the Coppermine Residents' Association.

The Coppermine Eskimo Co-operative was incorporated in September, 1960, to provide a business outlet for soapstone carvings and other handicrafts produced in the area. Eighty-three Eskimos are members of the Co-operative. General meetings are held once a year, or more often if necessary. The executive meets at least four times a year, and, with the exception of the school principal as business manager, its officers are all Eskimo.

Eskimo participation in the management of the Co-operative is passive. Few, if any, appear qualified to run this venture without outside assistance.

The Eskimo Council was formed in 1961 as one of several started in the Arctic as a first step in the political development of the Eskimo people. During the winter this Council meets once or twice a month according to the business to be done. Its main function is to advise the administration on the conduct of local affairs, and to bring matters that affect the Eskimo population to the attention of the authorities. In 1963 the importance of the Eskimo Council appeared to be on the decline. Its role had, to some extent, been superseded by the recently formed Coppermine Resident's Association in which the Eskimos are constitutionally represented.

In August, 1963, the Commissioner of the Northwest Territories granted the Coppermine Residents' Association its certificate of incorporation. The declared purpose of this Association is to work towards improving all aspects of local conditions, to encourage

participation in matters affecting all the residents of Coppermine, and to strengthen the realization that all residents have current responsibilities in their community.

Executive meetings are held once a month, and general meetings as required. The latter are well attended by both Eskimos and Whites, and the proceedings are conducted in English and Eskimo. In the spring of 1963 the Association was instrumental in the annual settlement clean-up so necessary in Arctic communities where all manner of garbage gathers under the drifting snow of winter.

The Association is active in organizing entertainment. An annual sports day is held, films are shown weekly, and plans are under way for a curling rink. Money is raised by membership fees, bake sales and film show admissions. Other activities in the way of entertainment, both organized and spontaneous include baseball, occasional dances, and dog sled races at Easter and Christmas when people from the outlying camps make their traditional visit to Coppermine.

A 25 man Ranger unit was formed several years ago, but has been inactive during recent years.

Settlement Facilities

Water Supply and Sewage Disposal

Neither the water supply nor the collection and disposal of sewage are organized on a settlement-wide basis. In the summer, drinking water is obtained by hose from run-off streams, or brought in drums by boat from up-river. The winter's supply comes in ice blocks cut from the Coppermine River shortly after freeze-up and hauled to the settlement by tractor or dog team.

Very few Eskimos have toilet facilities. Those who do, and the white population, dump sewage out on the sea-ice in drums to the west of the settlement where it can be carried away at break-up. Dumping near the sandbars is discouraged as these are shallow, and refuse may either wash up or be caught in the many fishnets set there in the summer. During the summer, sewage is either dumped in the sea or into covered pits. These pits are covered over when finished and probably refreeze in time as they are for the most part below the permafrost level. Waste water is either dumped on the ground near the houses, or is allowed to run out in open drainage ditches to the sea. Garbage is burned in incinerators made from fuel drums.

Community Bath-house - Laundry

In 1962 a community bath-house-laundry was built to provide the community, at no charge, with facilities for hot baths and laundering clothes.

The bath-house is divided into two sections, one side for men and the other for women. The men's side consists of two baths, a sink and a chemical toilet, and the women's side, in addition to the foregoing,

has four washing machines, sinks and ironing boards. Four clothes driers were to be hooked up as soon as sufficient electric power became available.

During the summer of 1963, the bath-house-laundry was closed for the want of a pump.

Power and Fuel

Electric power is generated by the Department of Transport's two 75 kw plants. The output surplus to D.O.T. needs, approximately 45 kw, is sold to other government agencies, the Missions, and the Hudson's Bay Company at 10 cents per kw. This surplus falls short of the settlement's needs, particularly in the winter. Electric stoves are being eliminated, and the use of heavy appliances must be staggered. For 1964 two 250 kw generators are on order, and one of the 75 kw generators is to serve as standby.

Heating oil is stored in three Northern Affairs' bulk tanks whose combined capacity is 455,000 gallons. Distribution lines carry this oil to all the government buildings, and a metered supply is fed to the Roman Catholic Mission. The Mission and all others buy fuel oil from the Hudson's Bay Company which, by agreement with the Department of Northern Affairs, retails fuel oil from the bulk tanks.

Perishable Food Storage

Ground conditions are not suitable for the building of good frost cellars.

For the preserving of country foods, the Department of Northern Affairs, in 1963, erected a freezer of 24,000 lb. capacity. This unit is for the use of Eskimos wishing to store fish, caribou or other country foods.

Accommodation, Restaurants and Stores

In the summer of 1963, emergency accommodation was available in empty Department of Northern Affairs' buildings, or in the barracks of the Department of Transport where visitors, by prior arrangement, could also eat at \$3.75 a meal. The Eskimo Co-operative was planning to take advantage of the summer tourist influx by putting up eight beds and a coffee shop in a building it had leased from the Roman Catholic Mission. The Co-operative already ran a handicrafts shop which opened its doors the moment a visitor arrived in the settlement.

The only retail outlet for foods and general goods is the Hudson's Bay Company store. During 1963 this store was well stocked with a great variety of merchandise.

Communication and Mail Services

The Department of Transport radio station operates from 4 a.m. to 11:30 p.m. It transmits commercial and government telegraphs and

weather conditions to shipping and aircraft. This Department also maintains the settlement's twenty instrument telephone system which links members of the white community.

The post office is in the Hudson's Bay Company residence, and is managed by the post manager's wife. Pacific Western Airlines hauls Coppermine's mail on its scheduled flights from Yellowknife.

Aircraft Facilities

There is no all-weather airstrip for wheeled planes at Coppermine, but conditions are such that airplane service can be maintained throughout the year almost without interruption. In winter there is an ice strip between the waterfront and the sandbars, which can accommodate ski-wheel aircraft. In late winter this strip can handle a DC-4. Due to the difference in break-up time between the sea-ice and the river-ice, landings can be made during the break-up season. When the ice directly in front of the settlement begins to rot, ski-wheeled aircraft still land on the ice beyond the sandbars. By the time this latter ice is unsafe, the river-ice has nearly broken loose, and in a few days there is sufficient open water for float planes to land. In the fall, during the period when the ice is not yet thick enough to support a skiplane, landings with wheeled craft can be made on the sandbars near the settlement. The river-ice freezes sooner than the sea-ice, and aircraft can land there before the regular winter ice strip is ready.

Boat Facilities

As the delta of the river extends beyond the settlement, the waters are suitable only for small schooners, and cannot accommodate deep draft vessels. The "Banksland" drops anchor 1/2 mile off-shore, and about 1 mile from the Hudson's Bay Company beach. This anchorage is dictated not so much by depth, as in fact it could come much closer, but by the need for sufficient room to swing at anchor. The harbour is not ideal, but affords fair protection from winds and ice, and the holding ground, according to the Arctic Pilot, is good.

Cargo must be lightered from ship to shore. Although the "Banksland" is mechanized to handle cargo, the settlement is not, and lighters are loaded and unloaded by hand on shore. All stevedoring is done by Eskimos. The need for lighters, and the lack of mechanization, must inevitably lengthen a ship's turn-a-round time, which in turn affects the freight rates.



Char being prepared for drying.



Fish waste cached to lure foxes into traps in winter.

Chapter VITHE ECONOMY OF THE COPPERMINE TRADING AREAThe Distribution and Sources of Cash Income

The distribution of income follows the established pattern. Those enjoying the highest income are invariably wage earners holding full-time jobs with outside agencies. In Coppermine six families had an income exceeding \$4,000; all but one of these depended on full-time employment. (Table 15, Family 16). The majority lives on an income of between \$1,000 and \$2,000. In Table 13 below, twenty families are shown to have a cash income of under \$1,000 a year. However, thirteen of these families lived away from the settlement and had little interest in wage employment, and made correspondingly more use of country foods, the value of which is not shown.

Table 13Distribution of Families by IncomeCoppermine 1962-63

<u>Income</u>	<u>No. of Families Receiving</u>
\$ under \$ 500	7
\$ 500 to \$1,000	13
\$1,000 to \$1,500	22
\$1,500 to \$2,000	15
\$2,000 to \$2,500	7
\$2,500 to \$3,000	5
\$3,000 to \$3,500	2
\$3,500 to \$4,000	1
over \$4,000	6

In many areas of the Western Arctic, the income from fur is no longer the base of the economy. Coppermine is no exception; the income from fur trapping for the twelve month period ending June 31, 1963 amounted to less than thirteen per cent of the total. As Table 14 shows, earnings from fur rank sixth in importance and exceed only the income derived from handicrafts.

Table 14Coppermine Trading AreaSources of Cash Income 1962-63

Casual Employment	\$ 31,439
Permanent Employment	\$ 29,523
Social Legislation	\$ 25,363
Relief	\$ 23,416
Fur	\$ 17,458
Handicrafts	\$ 9,329

Table 15 below shows the source and amount of income by family in the trading area, and reference will be made to it in the discussion of income sources to follow.

Table 15

Income By Family
June 1962 - May 1963

Family	Employment	Fur	Handi	Social	Relief	Total
	Permanent	'61-'62	'62-'63	crafts	Legislation	Income
	Casual					
1			94	977	780	499
2		336	68	11	972	522
3		134	(140)	414	216	303
4	3,305		471	726	336	4,838
5		490	(269)	722	168	229
6		257		430		687
7		1,678	(49)	338	9	216
8		512	(70)	262	96	286
9				171	96	841
10		142		47	22	780
11		2,048	(89)	309	39	288
12		180	(123)	468	267	408
13		679	(112)	173	72	144
14	3,500			192		504
15		744	(66)	362	334	247
16		972	(40)	523	308	1,694
17		2,047		20	22	384
18	4,500				168	173
19		343	(60)	520	297	144
20			(178)		72	93
21				14	17	342
22		558	(195)	440	108	597
23				4		492
24	2,780			167		780
25		252	(50)	348	112	480
26		655		198	8	75
27		1,749	(175)	372	44	212
28		1,589	(161)	259	182	144
29	750	298	(37)	213	274	366
30		20		16		456
31					144	336
32	475	66	(225)		108	240
33	2,813	266	(46)	33	269	87
34					1,560	3,552
35						1,560
36						1,013
37		100	(106)	24		212
38	6,000	238		121	14	289
39	4,200		(3)	37	80	30
40					1,116	4,635
41		1,407	(64)	210		288
42		784	(114)	536	384	225
43		1,254			480	320
44		112		43	360	375
45		20	(17)	16	240	30
46	1,200		(59)	131	72	1,399
47					240	1,781
48		341	(73)	220	39	690
49		716	(85)	433	386	1,406
					216	1,530
						2,082

Table 15 (Continued)

Family	Employment		Fur ^{**}		Handi crafts	Social Legislation	Relief	Total Income
	Permanent	Casual	'61-'62 [†]	'62-'63				
103		920		96	13	216	346	1,591
104		289		195	97	389	430	1,400
105		376		132		312	523	1,343
106		1,286	(24)	141	22	185	140	1,774
108		321	(107)	250	446		255	1,272
109		145	(176)	277			277	699
110		602		5	138	216	218	1,179
111		1,089		123		72	379	1,663
113			(9)	361	172	100	844	1,477
121		456		37	12	600	165	1,270
201		938	(102)	256	178	336	459	2,167
202		67		114	818	312	828	2,139
203		2,347	(33)	110	52	429	265	3,203
204				6	157	202	382	747

Total Coppermine Income

\$29,523	\$29,823	(3,057)	\$11,506	\$8,957	\$21,139	\$18,533	\$119,481
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Families Trading Into Coppermine

32		(165)	440	201		221	862
33	105	(623)	69		312	164	650
39		(36)			336	576	912
44			80			430	510
101		(1,344)	152		216		368
102		(295)	263			45	308
107	145	(779)	1,091		480	264	1,980
112	260	(480)	301		312	167	1,040
114	96	(183)	64	26	192	565	943
115		(1,563)	240		312	260	812
116	48	(280)	158		144	349	699
117		(294)	310		72		382
118	8	(964)	274	124	336	289	1,031
119		(349)			216	368	584
120		(540)	227		288	316	831
122		(385)	392		240	30	662
123	906	(230)	62		240	159	1,367
125	48	(1,279)	1,181		96	162	1,487
126		(1,196)	440		216	161	817
205		(80)	208	21	216	357	802

Total for Families Trading Into Coppermine

\$ 1,616 (11,065)	\$5,952	\$372	\$4,224	\$4,883	\$17,047
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Grand

Total \$29,523	\$31,439	(14,122)	\$17,458	\$9,329	\$25,363	\$23,416	\$136,528
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** Fur year runs from July 1 to June 30

† Not included in total income

Casual Employment

Until the expansion of Government activities in the area, income from casual employment was limited to unloading supply ships and odd jobs around the Government buildings. During the year reviewed Coppermine benefited from a construction boom unlikely to continue. The Department of Public Works, in addition to other construction, put up a seismograph vault and a bath-house-laundry; its payroll amounted to \$13,600. This Department must be commended for its employment of local labour. During the summer of the survey all employees with the exception of the foreman, were Eskimos. Much credit for this must go to the foreman who treated the men under him with tact and understanding, and found them punctual and reliable.

During the same period the Roman Catholic Mission built a new church. Employment on this project put \$7,000 into local pockets. The third most important employer of casual labour was the Department of Northern Affairs which paid out \$5,300.

Unloading supply vessels and aircraft brought in \$2,500. The balance of casual employment was provided by the Anglican Mission which built a new rectory, the Department of Transport, Northern Health Services, and the R.C.M. Police.

Permanent Employment

Only Government agencies and the Hudson's Bay Company offer year-round work. Northern Health Services has a handyman, a cleaning woman, and since September 1963 an Eskimo community health worker. The Department of Northern Affairs employs an Area Administrator's assistant, a school janitor, and a man to haul ice and water for the school. A special constable works as a guide and interpreter for the RCM Police, and the Department of Transport provides employment for a labourer. The Hudson's Bay Company employs three Eskimos as clerks and labourers.

Social Legislation Payments

Most authorities do not consider social legislation payments as a true income. However, \$25,363 was paid out in family allowances, pensions and boarding payments. In many cases, this money was the mainstay of the family's income and for the purposes of this report it will be considered as such.

Relief

Social assistance has been necessary in the area since the 1920's when the RCM Police distributed rations to those in need. Over the years the magnitude of these payments has increased with the

concentration of the population in the settlements and a growth of public conscience to the point where "relief has become a competitor to productive employment" (Brack, 1963). It is not proposed to argue the merits of the statement here. Suffice to say that fur provides almost the only income in the winter months to those not in permanent employment. When the white fox fails, the population is in distress. This happened in the winter of 1962/63 when every family, with the exception of those in permanent employment or in receipt of pensions, required some sort of assistance. Three families were not in need, two lived off the land, over 100 miles from Coppermine, and the third was a man living off wages saved from DEW Line employment. As Table 16 shows, all others received payment in varying amounts totalling \$23,416 or 17 per cent of the community's total income.

The Welfare Division (Northern Administration Branch) divides relief payments into three categories:-

Economic Reasons - Persons who would normally provide for themselves and their dependents, but who are unable to do so because of lack of wage employment opportunities, or poor game resources.

Health Reasons - Persons who are unable to provide for themselves and their dependents because of ill health, advanced age, physical disability, or mental incompetence,

Dependent Children-These payments are made to mothers whose minor children live with them, and who cannot provide for themselves and their children because the husband is permanently absent from their home. Included in this group are widowed, and divorced or unmarried mothers whose minor children are living with them.

Table 16 gives a break-down of the monthly average relief payments in the Coppermine - Holman area during a six month period.

Table 16

Relief by Type for the Coppermine - Holman Area

November 1962 to April 1963

<u>Monthly Average</u>	<u>Groceries</u>	<u>Clothing</u>	<u>Fuel</u>	<u>Shelter</u>	<u>Other</u>	<u>Total</u>
Economic Reasons	\$ 1,302	\$ 155	\$ 293	\$ 45	\$ 470	\$2,095
Health Reasons	434	49	68		6	557
Dependent Children	564	56	405		6	1,031
	\$ 2,300	\$260	\$ 766	\$ 45	\$ 482	\$3,683

Fur

Income from fur fluctuates with the cycle of the white fox. 1962-63 was a low phase when only 296 white foxes were traded, compared to 588 for the year before, and 1470 for the year before that. Yet Table 15 shows the income from fur to be higher during 1962-63 than for the previous year. This was brought about by the worldwide demand for sealskin which made itself felt in Coppermine during the late summer of 1962 when the local Hudson's Bay post began to buy sealskins for the first time. Thus the decline in revenue from fox was more than offset by the value of sealskins which were being traded at prices ranging from \$10 to \$25.

Since seal hunting around Coppermine is regarded as sport, and takes less time and equipment than fox trapping, more families participate. Thus the income from sealing is more evenly distributed throughout the community. This is illustrated by Table 17.

Table 17CoppermineDistribution of Income from Fur by Family

	<u>1961-62</u>	<u>1962-63</u>
Over \$1,000	4	2 families
\$ 700 - \$1,000	2	1
\$ 350 - \$ 700	4	15
\$ 200 - \$ 350	6	18
\$ 100 - \$ 200	15	13
Less than \$100	21	19
	52	68
	<u>—</u>	<u>—</u>

The families with the highest income from trapping are those who live away from the settlement, and consequently make the most use of the land's resources. Many trappers, equally competent, prefer to stay in the settlement in the hope of getting wage work, knowing that if this fails, relief will be available.

The Eskimo Co-operativeHandicrafts

Fifty-one families participated in the production of handicrafts worth \$9,329. This sum must be considered as minimal since it represents only sales through the Eskimo Co-operative, and does not include sales by individuals to strangers stepping off aircraft.

Handicrafts fall into two principal groups, soapstone carvings

and clothing articles, with soapstone carvings being by far the most important. The introduction of soapstone carvings into Coppermine is a relatively recent event.¹ In 1951 a patient discharged from the Charles Camsell Hospital brought the skill back with him, and what started as a hobby became an industry within a few years. Under the guidance of interested teachers \$2,000 worth of handicrafts were sold during 1953, \$6,000 worth in 1955, and \$9,500 for the period under review. The last figure might well have been closer to \$12,000, but for a three month period that the Co-operative had its working capital tied up in stock and was forced to suspend production until it sold several thousand dollars worth of carvings to an Edmonton distributor. By mid-summer there were not enough quality carvings on hand to supply the tourist demand.

Throughout the tourist season, visitors buy almost all the carvings produced. In 1963, six tourists arriving on the first plane after open water bought a total of \$350 worth of carvings.

The Coppermine Eskimo Co-operative, the first in the western Arctic, was incorporated in September 1960. The \$500 loan from the Eskimo Loan Fund has since been retired and the first share dividend of \$1,177 was declared in March 1963. With the exception of the school principal as business manager the executive consists of Eskimos. At the time of the Survey one gained the impression that although all Eskimos were keen carvers of varied ability and talent not one of the 83 members was qualified or interested in managing the Co-operative without outside help. While the school principal is dedicated to helping the Co-operative, it must be pointed out that his duties at school keep him adequately occupied and give him little time to guide carvers. Much rubbish is produced, periodic visits to the settlement by a craft officer would yield ample dividends.

Tourism

Almost all the revenue from tourism accrues to the handicraft shop. Due to the lack of firm management the restaurant and hostel proposed by the Co-operative failed to get underway during 1963. However, few tourists are interested in staying overnight in Coppermine; most visitors fly in from the tourist lodges on Great Bear Lake to take photographs of Eskimos and to buy carvings. Only inclement weather persuades them to stay overnight. Angling for char on the Coppermine River is predictably unsuccessful so that very few tourists hire a guide and boat in the settlement.

In early 1963, one of the lodge operators built an outcamp at Tree River, and the majority of tourists fly direct from Great Bear Lake to this camp. During July and August a daily average of 24 visitors came to Tree River to fish. Three Eskimos operated their own

1. Personal communication Father M.M. Metayer, O.M.I., Coppermine

boats to carry visitors from the float base to the fishing camp and back at \$8 to \$10 per round trip.

Eskimo Working Capital

The results of a count made of the hunting tools and implements in the area are illustrated in Table C of the appendix. This table shows the family number and the number of men able to hunt in each family. Since borrowing is common between relatives or friends, it will be more useful to discuss the availability of equipment in terms of implements per able-bodied man or hunter rather than per family. Table C consists of two sections; the first deals with the residents of Coppermine, and the second covers those whose camps lay beyond the settlement, but within the Coppermine Trading Area.

The distribution of motor sleds is revealing. Of the ten sleds in the entire area, two belong to a man living away from the settlement who depends on trapping for the major part of his income. The remaining eight belong to men in the settlement of Coppermine, none of whom could be considered serious trappers. Six are relatively affluent men in steady jobs, one is an ex-DEW Line employee who earns good wages on construction projects, and another is an Old-Age pensioner living alone.

Four more sleds were delivered by the supply ship subsequent to this census. The Hudson's Bay manager expected to sell these before the end of the year to men then employed on construction work. Since most of the motor sleds in the area appeared to be used as a plaything, their effectiveness as a trapping tool could not be assessed.

Boats are indispensable to seal hunting or the tending of fish nets. Twenty-nine boats or canoes were shared by the 51 able-bodied men in Coppermine, in the outlying camps this ratio increased, as one might expect, to 31 men sharing 28 boats or canoes. In the whole area there was only one seaworthy schooner, and this with a defective engine. Its owner left the area for Holman after this census was taken.

As Table C shows, the canoe, ranging from 14 feet to 20 feet, was the most popular craft. This was followed by the jolly-boat, or yawl, which is a more expensive, but also a more seaworthy vessel. There were a few dinghies, a smaller version of the jolly-boat. Speed-boats, while few in number, were becoming increasingly popular with the wage earning section of the community who are able to afford the higher gasoline consumption that goes with the more powerful motors required to push a speed-boat.

The outboard is the most popular motor used. Thirty-three were owned in Coppermine and twenty-one in the outlying camps. These ranged in capacity from three to eighteen horsepower with the five or five and a half horsepower model being the favourite. The

maintenance of motors leaves much to be desired. Few outboards in use were over four years old. Older motors and parts of motors, lay strewn about almost every camp. In connection with outboard motors, it may be of interest to note that in 1950 only two outboards were operated by Eskimos in the settlement.¹

During eight months of the year, dog-sleds are used to hunt caribou and seal, to visit traplines and fish nets, to haul fuel and supplies, or just to visit. Three hundred and two dogs were counted in Coppermine, a ratio of six dogs per hunter; in the outlying camps this ratio went up to seven dogs per hunter for a total of 220 dogs.

The distribution of fox traps and seal hooks in Coppermine and the outlying camps emphasizes the greater dependence of the camps on country produce. In Coppermine, the average number of traps per man was 58 while the average number in the camps was 120; in the case of seal hooks, the average was six and eight respectively.

Not a single household was without a fire-arm, and one family had as many as ten. The 51 able-bodied men of Coppermine shared 118 rifles and shotguns, while the 31 men of the camps accounted for 85 weapons. Many of the rifles were equipped with telescopic sights.

The .22 is the most popular rifle, and is used to hunt seal, rabbit, and ptarmigan. The .30/.30 Winchester was the most common of the heavier calibre rifles, and is used to hunt moose and caribou.

It may be of interest here to show the replacement value of some of the hunting and trapping equipment discussed above, Taking family 42 (Table C) as a sample:-

Speed-boat	\$ 500.00
Outboard motor, 5 1/2 h.p.	300.00
Outboard motor, 10 h.p.	400.00
Seven dogs	350.00
Fifty traps	50.00
Six seal hooks	30.00
.22 Rifle	28.00
.30-06 Rifle	140.00
12 gauge shotgun	83.00
	<hr/>
	\$1,881.00

1. Personal communication: Archdeacon J. Sperry

In addition the hunter requires a tent, a camp stove, lamps, a dog-sled, dog harness, fish nets, ice chisels, ammunition, and often binoculars.

Since the average Eskimo is exceedingly careless of material possessions most of this equipment quickly wears out, or is allowed to get lost. To re-equip himself, he may, if he is a good risk, obtain credit from the Hudson's Bay Company. If he is a wage earner, he pays off his debt in regular instalments, or, if he is primarily a trapper, whenever he brings in fur. According to the Hudson's Bay store manager only a negligible number of local people held savings accounts. Much equipment seems to change hands in the course of poker games where the persistent losers are often the inveterate receivers of relief.

In 1961, the Hudson's Bay Company supply vessel "Fort Hearne" rammed an ice floe in Bernard Harbour and sank in 20 feet of water. That summer, and the summer following it, the men of the area spent many happy hours hooking packing crates through the hatch. In 1963, there was scarcely a family that did not have some item salvaged from the "Fort Hearne" whether it was an outboard motor, a sewing machine or a bundle of fish nets.

Ammunition, gasoline, fish nets and dog food are supplies that hunters require to buy to continue their activities. From Hudson's Bay Company sales these annual expenses per hunter were calculated by the Survey to be \$56 for ammunition, \$33 for gasoline, \$23 for fish nets, and \$13 for dog food.

The cost of ammunition could be reduced by as much as one third through the use of reloading equipment. Such a machine is being used by the people at Holman.

Resources and Their Utilization

During the 1940's and early 1950's a dozen or so families now living in Coppermine had their main camps in the Red Rock, Itchen, and Point Lakes area. Theirs was a caribou economy. They depended on caribou which were hunted intensively during their fall migration towards the south. To sustain themselves and their large dog teams each family would take 150 to 250 animals. At the first snow the men travelled to Coppermine to trade caribou skins and a few fox, and then returned to the interior with a load of supplies that would last them until Easter, when another trip was made. They ran short trap lines from their camps, did little fishing, unless short of caribou, and sealed along the coast only to provide their dogs with food for the return journey into the interior. In 1954 the caribou migration failed and the Eskimos dependent on them left for the coast and Coppermine.¹

Today the Eskimos in the Coppermine Trading Area depend on store-bought food, seal and fish, and to a lesser extent on caribou and moose. The ratio of store-bought food to country food varies inversely with the distance from the settlement. A man earning wages on a construction project may eat bread imported from Yellowknife at 95 cents a loaf while the family camping on the Rae River gets by on quantities of dried fish and a sack of flour.

Cash income is provided by the pelt of the fox, and the seal, and to a limited degree by quarrying of soapstone. It may be appropriate to examine some of the natural resources of the Coppermine Trading Area in detail.

¹ Personal Communication: Archdeacon J. Sperry, Coppermine.

MAP 6



The Fur Bearers

Of the fur-bearing land mammals, the white fox has always been the most important and remains so to this day. Dolphin and Union Strait and the Coronation Gulf divides the Coppermine Trading Area and this division also delineates the rich and poor trapping grounds. As Table 18 shows, Wollaston Peninsula and the southern section of Victoria Island generally have consistently produced more fur than the mainland facing it.

Table 18

Comparative White Fox Take

<u>Year</u>	<u>Coppermine</u>	<u>Read Island</u>
1949-50	158	985
1950-51	1,164	6,580
1951-52	388	2,363
1952-53	163 (63) +	764 (34) +
1953-54	441	no data
1954-55	588	7,812
1955-56	183	5
1956-57	512	1,783
1957-58	523	1,505
1958-59	710	723
1959-60	468	396
1960-61	1,470	2,467
1961-62	588	1,631

Note: + Trapper population 1952-53

Source: Fur Export Returns, Territorial Division,
Department of Northern Affairs & National Resources.

With the closing of the post at Read Island in 1962, and the virtual depopulation which followed, some of the area's best fox country lies abandoned. As Map 6 illustrates, the trappers at Lady Franklin Point confine their efforts to short lines along the west and south shores of Victoria Island. The trappers on the mainland run one to seven day lines in a northwesterly direction towards Cape Young, or along the shore line and among the islands close to Coppermine. The average trapper has between 50 and 60 traps, which he sets in November and inspects at most, perhaps twice a month throughout the season ending in April. In between visits to the trapline, trips may be made up the Coppermine River for firewood, or out on to Coronation Gulf to check hooks set to catch seals at their breathing holes.

In a poorer fox year, such as 1962-63, traps will be visited less often or may even be pulled up altogether. Trappers generally travel in company with their trapping partners and traps are set side by side. Foxes caught are skinned on the trail and the carcasses are fed to the dogs. By and large the Coppermine country has always been considered poor fox country, and the Eskimos of the area have never had a reputation of being active trappers.

The only other fur of economic significance is the coloured fox. While this animal may be found on Victoria Island, its main range in the area lies close to the timber line. Because of the low price paid for this fur, no effort is made to trap it.

A few weasels, the occasional wolf and wolverine are traded each year, but the numbers are so small as to be of no significance. The fur of the wolf and wolverine is in demand locally for trimming garments. Arctic hares are more plentiful on Read and Victoria Islands than on the mainland. The reverse is true of the ground squirrel. This animal is taken for its flesh and fur, the fur being used for handicrafts and children's parkas.

Caribou

The huge caribou herds which used to cross from the mainland to summer on Victoria Island are a thing of the past. The caribou population of Victoria Island is a resident one, and only stray animals within hunting range of Read Island and Lady Franklin Point are taken on Victoria Island by residents of the Coppermine Trading Area.

On the mainland, the nearest large concentration of caribou is the Great Bear herd (Kelsall, 1957, p. 13), part of which winters along the south shore of Dease Arm. Groups of this herd are found the year round along the coast from the east end of Dolphin and Union Strait to Pierce Point, and inland on the Rae and Richardson Rivers.

Bands of caribou from the coastal herds (Kelsall, 1957, p. 17) also remain in the area throughout the year, and are found in groups of from 5 to 50 both east and west of the Coppermine River, and along the valley of the Tree River.

In exceptional years caribou have appeared in large numbers as was the case one spring when several thousand caribou bunched on the peninsula of Cape Krusenstern, 50 miles from Coppermine.

Thus the number of caribou taken in the area may vary widely from year to year. As many as 4,000 animals have been killed in a good year, and as few as 150 in a poor year. In recent years the caribou take has averaged between 1,500 and 2,000 animals.

Caribou are seldom hunted far from camps or settlements. In summer, forays are made by boat up the Coppermine or Richardson Rivers as far as navigation permits. Hunters scan the country from a ridge of high land, but seldom walk more than five miles unless actually pursuing an animal. In the summer of 1963, members of the Survey descending the Coppermine River saw a caribou 16 miles from the settlement. When this was reported, two boat loads of Eskimos immediately set out and returned with the animal the following day. In winter, caribou are scarcer, but hunting is easier since dog teams are used to follow the animals' trail.

The flow of the caribou skins that at one time came from the interior to provide winter clothing and sleeping rugs has dried up. The

Hudson's Bay post is able to buy only very few for resale to locals so that there is a shortage of this commodity in the community.

Moose

Although no moose have been reported on Victoria Island, local informants maintain that on the mainland the species has increased noticeably within living memory. Favourable habitat exists along the Richardson, Rae, and Tree Rivers, and that is where the majority of moose are taken. Moose are also plentiful on the Coppermine River to about 30 miles above the settlement, but since this is now beyond the hunting range of the Eskimo, none of these moose is ever taken.

On occasions, a moose hide may be used to form part of the exterior wall of a shack, but owing to their weight the hides are often abandoned at the place where the animals are skinned. Yet, tanned moose hide is much in demand for the soles of boots, and in 1963 the Hudson's Bay manager reported that his stock would soon run out since he had been unable to obtain a fresh supply from the south that year.

The 1960-61 R.C.M. Police game report indicated that 40 moose had been taken during the year. The Area Administrator in a 1963 quarterly report estimated that 30 moose were taken during the month of January alone.

Bear

The barren ground grizzly is frequently observed on the banks of the Coppermine, Richardson and Rae Rivers. Because of its destructive habits this bear is detested, and undoubtedly killed, but since the species is protected the actual take is not known.

The polar bear seldom penetrates into Coronation Gulf, and many of the Coppermine Eskimos have never seen one. The occasional polar bear has been taken at the western end of Dolphin and Union Strait by Read Islanders, but normally this animal does not wander out of the Amundsen Gulf.

Game Birds

Ptarmigan and ducks, such as the pintail, old squaw, and both varieties of eider are common in the area, but are not taken in great numbers. By their own reckoning the hunters of the area took 723 ptarmigan, 30 geese, and 100 ducks in the year ending June, 1962. These birds provide a welcome addition to the diet of the people, but little use appears to be made of down or feathers.

Seal

The ringed seal has always been the mainstay of the Eskimos in the Coppermine Trading Area. It has provided meat for men and their dogs, skins for clothing, and oil for light and heat. Since 1962, its skin has usurped the traditional place of fox as a source of cash income, and the seal has consequently been more seriously pursued.

Since the Coronation Gulf freezes over from shore to shore so that there is no floe edge, sealing falls into three distinct phases. From late November to mid-May hooks are set in the seal's breathing holes and visited perhaps once or twice a week. Once the days lengthen, in February and March, some families leave the settlements to set up camps on the ice close to the sealing grounds. Towards the end of May as the heat of the sun increases, the seals are shot on the sea ice as they bask in the sun. This phase continues until the end of June when the seals take to the large leads of open water off the mainland and around the islands.

From July until freeze-up in late October seals are hunted with rifles from motor powered canoes or speed boats. During early summer, a shot seal sinks quickly from sight, although hunters are adept at shooting from a moving boat, and thus get to the scene of the kill quickly, many seals are lost. Some authorities (Mansfield, 1963, p. 17) have estimated hunting losses from sinking to be as high as 50 per cent. In terms of salable skins early summer hunting yields many animals, perhaps 25 per cent of the total, which are not worth skinning because they are moulting their hair coat. Nevertheless, summer hunting is the phase enjoyed most by the men; although they may skin the seals it is the women who have the laborious task of preparing the hide.

During 1962-63, 1,337 seals were traded in the area for eventual export. No more than six per cent of the total were the higher priced silver jars.

Sealing, like fishing, could be organized to give better results. Seal nets have never been used by these Eskimos, and present catches could be improved through their use, and the establishment of spring and summer seal camps at locations where seals are not now being taken. At present, too much time and gasoline is consumed travelling to and from the settlement to the sealing grounds.

Fish

There is a marked difference in the availability and distribution of fish north and south of the Coronation Gulf in the Coppermine Trading Area. The two major species used north of Coronation Gulf are lake trout and Arctic char. After freeze-up the Lady Franklin group takes trout from a chain of lakes along their traplines. Char are available along the coast for a short period after break-up, but once the ice moves out this coast becomes too exposed for fishing. In any event, there are no large river systems in this area to support a sizable char population. A run of char does occur on a small river emptying into Coronation Gulf behind Richardson Island, and this river used to be fished by people from Read Island. During 1963 the one family at this site was catching all the fish it needed.

On the south shore of Coronation Gulf larger river systems provide fish in greater variety and number. Trout are found in the lakes and both whitefish and char run the rivers. The lakes are barely used, and only the few Eskimos living in camps fish the lakes behind Bernard Harbour and Cape Krusenstern. The trappers from Coppermine jig for trout on a large lake in the area they trap (Map 6).

The char picture is different. This fish provides the main staple for the people at Coppermine. It is intensively fished in the Delta of the Coppermine River, among the off-shore islands, and in some deep pools about 12 miles up-stream.

In late May, or early June, gill nets are set through the cracks in the ice, and yield a daily catch of two to three char and an equal number of small whitefish. By the end of the third week in June, just as the last ice clears the River, the char run to the sea begins and continues until the second week in July. During this time nets are set in the River, the fish caught is suspended to dry from paddles, drift-wood and chicken-wire stages. All the fish obtained from this run is for human consumption. Dogs are fed scraps twice a week, and exist on this diet until September when they may be fattened up in preparation for the winter's work. Although char may be caught the season through, the take declines to less than one or two a day. The first snow in late September or early October precipitates the char's return up the River. This final run is heavy, but of short duration. After freeze-up, there is a run of whitefish that lasts about ten days. Fishing activity now falls off though some individuals may leave their nets in the River until the ice is several feet thick.

Local informants maintain that the char fishery in the Coppermine River has declined over the years, that fish are getting smaller, and that perhaps every third year the fall run is not quite so good. Considering the increased population depending on this fishery, the decline in yield is hardly surprising. In the summer of 1963, the survey counted 174 30-foot nets in the River, the greatest proportion being of three and one-half inch mesh.

The annual fish consumption per family in Coppermine averages 2,000 pounds of char and 500 pounds of whitefish, yet never enough fish is taken to see them through the winter. Most families are out of fish by Christmas.

The Tree River, 85 miles east of the Coppermine, is now reported to be an excellent fishing place. According to the Eskimos its fish stock was at one time exhausted. Its subsequent recovery is borne out in the records kept by the R.C.M. Police who have fished the River for dog food for several years.

Table 19

R.C.M. Police Fish Take

<u>Year</u>	<u>Number of Fish</u>	<u>Total Weight</u>	<u>Days Fished</u>
1954	475	2,500 lbs.	9
1955	610	3,000 "	14
1962	3,550	17,750 "	17
1963	1,760	12,320 "	22

In 1961 the River was "discovered" by tourist lodge operators. By August, 1963, a permanent tourist camp had been built below the first rapids, and as many as 24 sports fishermen a day never failed to land a char. The same year the five Eskimo families, who returned to settle at the River's mouth, had each put up over a ton of fish by mid-summer. How long the Tree River will stand this degree of exploitation remains to be seen. For 1964 the R.C.M. Police were wisely considering moving their fishing operation to Richardson Island on the north shore of Coronation Gulf.

Several other rivers draining the mainland are sporadically fished by one or two families. Most of the river systems are too small to stand any more than this, and the fish runs are often missed. In 1955 six nets set below the first rapids of the Rae River yielded a thousand fish in three days. In the summer of 1963 three families fished with limited success at the mouth of this River. The families at Bernard Harbour were using both nets and the traditional fish spear.

Saffron Cod is especially plentiful in the clear water around the off-shore islands. In July one angler caught 50 in the course of a night's fishing, but generally little use is made of this fish. At Coppermine capelin spawn from the middle to the last part of July, and are gathered by some individuals for dog food.

Fish use in the area may be summed up as being heavy to the point of overfishing in the vicinity of Coppermine, while the lakes of the interior are ignored. The scarcity of fish in the settlement could be overcome by the organized harvesting of these lakes, and of the smaller river systems.

Timber

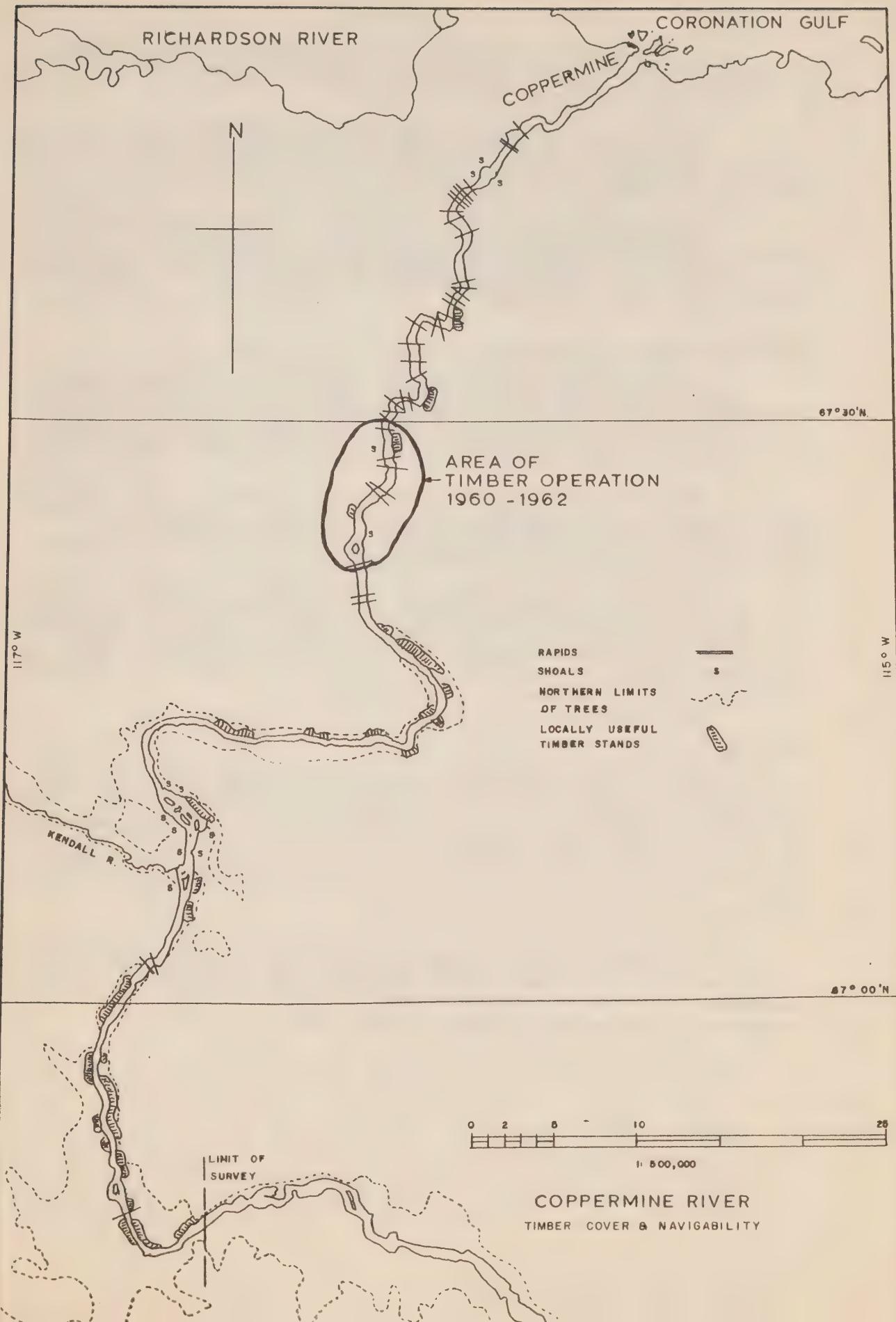
Except for groves of white spruce found along the Coppermine, and in the sheltered valleys of its tributaries, the Coppermine Trading Area lies well beyond the limit of trees.

To provide work and local building material small experimental logging projects were initiated by the Area Administrator in the winters of 1960, 1961 and 1962. Logs were cut on the banks of the Coppermine River, 36 miles from the settlement, piled on the river ice, and allowed to float down on the high waters of break-up. Many logs were either damaged by the ice or completely broken during their passage through Bloody Falls. Log recovery at the River mouth posed another problem, storms drove ice among the surviving logs, and when the storm died down ice floes moved by the river current carried the logs out to sea.

In the summer of 1963 members of the Survey carried out a timber reconnaissance from the Big Bend to the mouth of the Coppermine River. (Map 7)

From the Big Bend to the 67th parallel the River flows deep and is fringed by almost continuous stands of white spruce averaging 25 to 35 feet in height, and four to six inches in diameter at breast height.

MAP 7



Northwards the occurrence of useful timber stands diminishes to isolated clumps clinging to the steep banks of the Coppermine River or to thin lines bordering tributary creeks.

For the last 40 miles of its course the river becomes a series of rapids interspersed with many shoals making this stretch of the river entirely unnavigable.

While it is feasible to log sections of this river and, by strapping, to float these logs undamaged to the settlement, the nature of the timber stands, and the difficulty of getting to them, limits the scope to a marginal operation.

Tourism

The tourist activities on the Tree River have already been described. The tourist boom in the area began in 1961 with the opening of a 30-bed sports fishing lodge on Great Bear Lake. Two more lodges have opened since with accommodation for 52 and 22 guests respectively.

The camps operate from about July 1 to September 15. Visitors angle for lake trout, grayling, and northern pike. To catch Arctic char special side trips are arranged to the Tree River where one of the operators has established a permanent outcamp.

The rate per week is \$695.00 and includes transportation to and from Winnipeg or Edmonton. As has been pointed out, a number of tourists from these camps visit Coppermine on their way to Tree River. The Coppermine country is both of scenic and historical interest. More might be done to attract visitors to the settlement.

Soapstone

Three deposits of soapstone are known in the area. The most accessible is an outcrop on top of a hill close to the Tree River. During the winter of 1962-63 two men quarried a quantity of this stone and hauled it back to Coppermine by dog team. They were paid ten cents a pound by the Co-operative which in turn sold the stone to its members at the same price. During the year of the Survey the price to outsiders was 50 cents a pound.

Another type of stone which lends itself to carving came from a layer of white rock on one of the islands close to Coppermine. This stone has an attractive appearance and the school principal, as business manager of the Co-operative, was promoting its use.

Chapter VIITHE HOLMAN TRADING AREA

As early as the first decade of the century, traders operating from schooners were active in the area. It was not until the 1920's, however, that the Hudson's Bay and Canalaska trading companies established permanent posts in Prince Albert Sound and Minto Inlet. In 1938, the Hudson's Bay Company bought out the Canalaska Company, and a year later, consolidated its operations by opening a post at Holman, and closing all others in the area. In 1939, the Roman Catholic Church also built its mission at the present site.

In the summer of 1963, twenty-three families consisting of 132 individuals traded into Holman. Twenty families made Holman their principal camp and the three other families had their main camps at Minto Inlet and Walker Bay. The only other permanent residents in the area were the Hudson's Bay Company manager, his Eskimo wife and child, the Roman Catholic and the Anglican Missionaries.

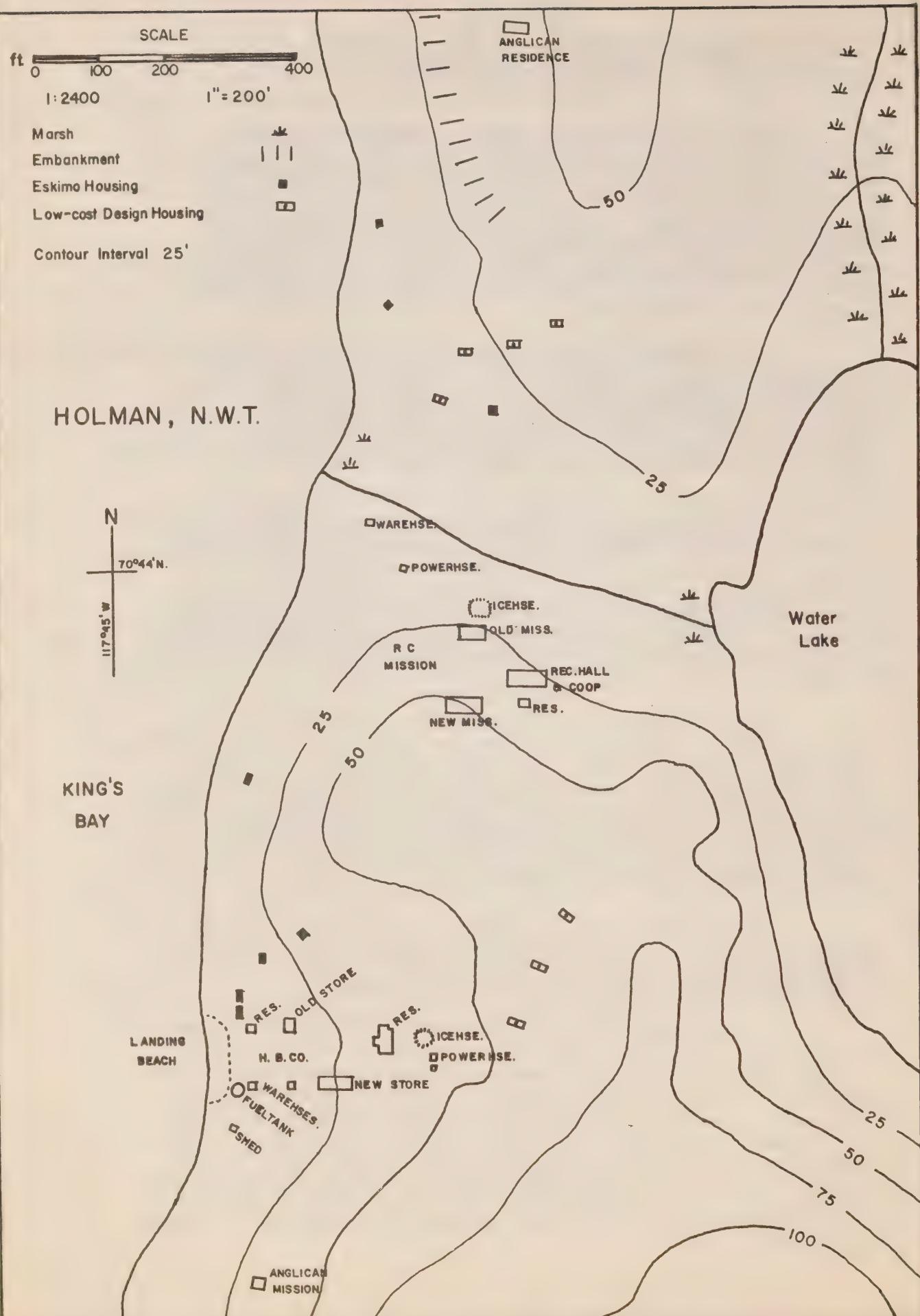
In recent years, the population of the area has varied between 100 and 135. After the R.C.M.P. had established a post on Banks Island, several families moved across from Holman. Some stayed for good, but others still come and go at will, remaining a year or two on Banks Island and then returning for a like period to Holman. In 1962, when the Hudson's Bay Company closed its post at Read Island, four families from the Island moved north to settle at Holman.

As in Coppermine, two churches are active in the area. The Roman Catholic Mission of "Christ The King" and the Anglican "Church of the Resurrection". The first was built at its present site in 1939; in 1963, a new church and a community hall were being put up alongside the old building. The same year, the Roman Catholic Church further increased its establishment in the settlement by sending in two teaching sisters to give instruction in the three Rs, general hygiene and related subjects.

Although only four families of the twenty-three in the trading area are of the Roman Catholic persuasion, the facilities of the Roman Catholic Mission are freely used by all, and the priest is closely identified with the lives of the people.

The mission's small frost cellar is used by the community to store fish, game birds, and caribou during the summer months. Over the past eight years, the rectory has served the community as a recreation centre. Between September and Easter, films are shown twice a week and there are nightly card, pool and ping-pong games. The settlement boasts several violin, guitar and accordion players. Dances, especially at Christmas time, are a regular feature. As secretary of the Holman Co-operative, the priest is further involved in community affairs. Provision is being made within the mission's new community hall for a 30' x 24' workshop to be used by the Eskimo Co-operative.

MAP 8



Nowadays, snowhouses for family use are seldom built. Even on the trapline, double tents are preferred, and when people speak of snowhouses, they seem to refer to a tent well banked up or even covered with snow.

The low-cost houses come equipped with baths, sinks, and oil-burning cook-stoves. The baths are quickly thrown out, but the cook-stoves are held in high esteem, especially since the relief recipients are also supplied with heating oil. Six hundred gallons of heating oil seem sufficient to keep this type of house at a reasonable temperature over a twelve month period. Persons not in receipt of public assistance, burn seal oil, either in the traditional soapstone lamps or in blubber stoves constructed of sheet metal. The average family can get through the winter on 225 to 280 gallons of seal oil although only the best hunters ever get this much oil.¹

Settlement Facilities

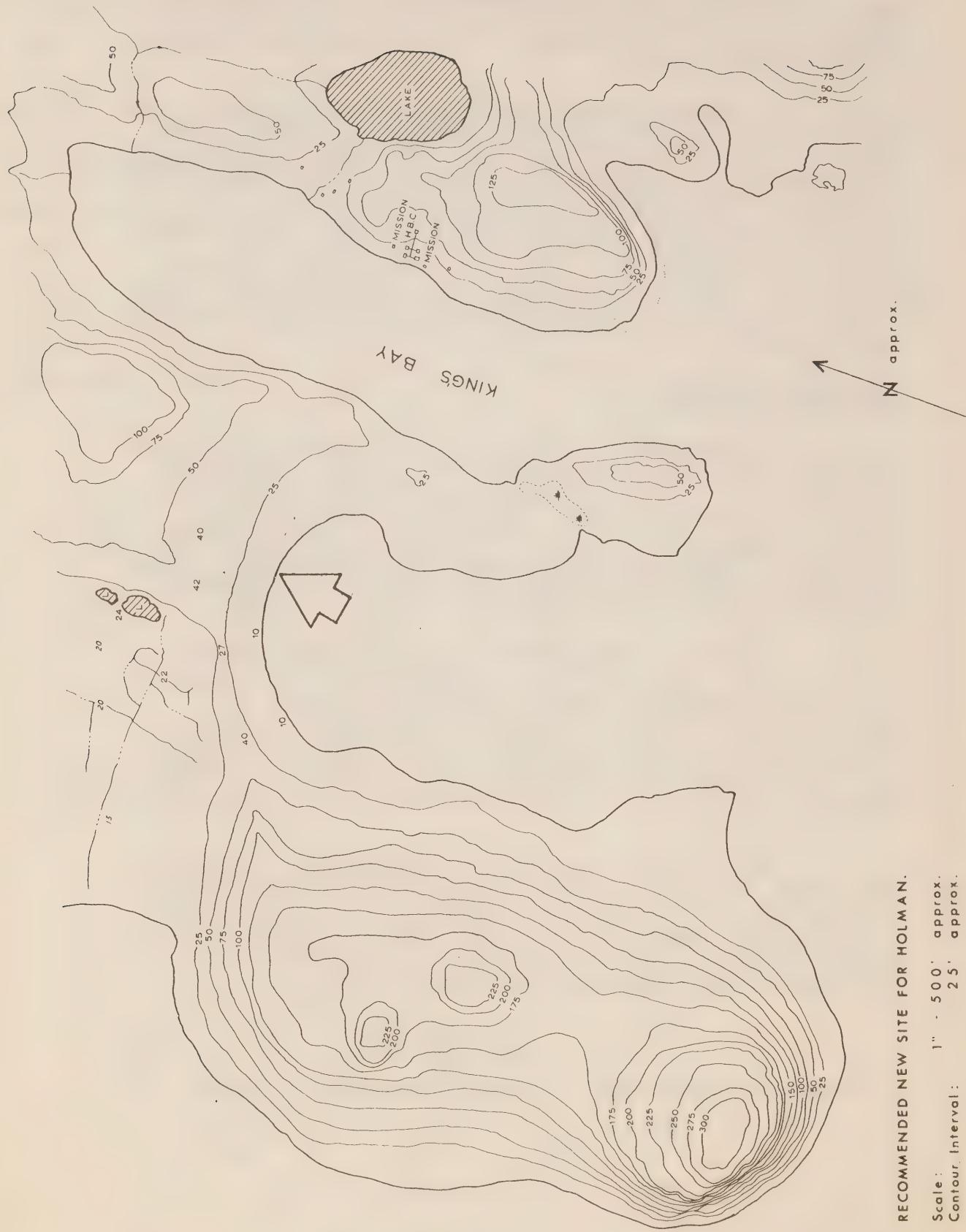
In summer, water is generally obtained from a small lake 150 yards behind the settlement, or from fresh sea ice drifting into King's Bay. The latter supply is unreliable and the lake is said to be polluted by sewage. Safe water is available from a creek draining into the head of the bay and this water was being used by the Hudson's Bay Company during the summer of 1963. After freeze-up, ice for drinking water is cut and hauled by dog-sled from the lake behind the settlement.

In winter, sewage and other waste is carted onto the ice of King's Bay to be carried out to sea at break-up. In summer, it is thrown and sometimes burned in pits among the rocks, or indiscriminately dumped onto the rise of land draining into the drinking water lake. The predictable growth of the settlement will aggravate this problem. It has been suggested that any settlement expansion take place on the west side of King's Bay. (Haddin, 1963) (Map 9).

The only retail outlet in the settlement is the Hudson's Bay Company store which in 1963 stocked only basic goods. During the same year, the Company began enlarging its store and expected to increase the variety of its stock. There is no post office at Holman. As already described, mail for the settlement is sorted at Coppermine and delivered whenever aircraft fly in.

¹ Personal Communication: Father Tardy, O.M.I., Holman

MAP 9



For the fifteen years that this priest has been in the area, he has also been charged with the medical welfare of the population. Although Holman lies within the Coppermine Health district (Map 3) the Public Health Nurse visits infrequently and a doctor examines the people only at the annual X-ray survey. In 1963, the Area Administrator initiated monthly visits by aircraft to Holman, and he was hoping to share the costs of this charter with the Department of Health and Welfare. It is appropriate to mention here that the Area Administrator also began to make regular visits by aircraft to the other outlying camps in his area to check on the welfare of the Eskimos and to provide them with some measure of security.

Anglican missionaries have visited the area since 1916. In 1960, a chapel was put up for use by local catechists and visiting missionaries, but it was not until 1963 that a missionary was posted, and Holman ceased to be part of the Anglican Church's Coppermine parish.

Schooling has never been available in the Holman area. Throughout the 1940's and up until the late 1950's, a few individuals attended the mission schools at Aklavik where they generally stayed for the duration of their schooldays, an experience that failed to demonstrate the value of education to today's parents. Others were sent to the summer school run by the Anglican Church in Coppermine, and some were taught to read and write while patients in the Charles Camsell hospital.

Since the Federal Day School opened in Inuvik in 1959, children have travelled from Holman each fall and returned by aircraft the following spring. During the school year, 1962-1963, only thirteen children out of thirty-seven of school age received any education. The parents expressed understandable opposition to the long separation from their children. At the same time, it was evident that year for year at school, the Holman pupils have a better command of English than their counterparts at Coppermine.

The need for a local school has been recognized by the Department of Northern Affairs. A two-room school and two teacherages have been planned for 1964-65.

During the winter of 1962-63, twenty families shared the eighteen houses in the Holman settlement. Seven of these were the low-cost, prefabricated, 12' x 24' one room houses (plan 370) erected in 1962 to house widows and others on permanent relief. These houses have been well received, and are popular. Twelve families have applied for one under the low-cost housing scheme.

One frame house, belonging to the Hudson's Bay Company, was occupied by the trading post manager's married son. Of the remaining ten houses, four were made of plywood, and six were wretched shacks of scrap material, but one or two of these will eventually be replaced by prefabricated units.

Electricity is produced on an individual basis by the missions and the Hudson's Bay Company. None of the Eskimo houses are supplied with electricity. As mentioned, radio contact is maintained by the Hudson's Bay Company with the Department of Transport stations at Cambridge Bay and Coppermine.

Until 1963, the bulk of the settlement's freight was delivered to Holman by the annual sea lift. In the spring of 1963, a Pacific Western Airline D.C.4, landing for the first time on the ice of King's Bay, brought in several loads of building materials required by the expanding missions at Holman.

Aircraft Facilities

During the winter, a cleared ice strip in King's Bay provides a one-mile runway for ski-wheel aircraft. In late winter, this strip is suitable for D.C.4 aircraft. During the navigation season, the Bay provides landing space for float aircraft, although ice can drift into the harbour at any time during the summer. During break-up and freeze-up, the settlement may be considered isolated, although it is possible for a small airplane equipped with low pressure wheels to land on a raised beach 1500' long at the head of the Bay west of King's Bay.

Boat Facilities

King's Bay is an excellent harbour. The depth at its mouth is 70', decreasing to 10' near its head. The sides fall off steeply close to shore. The holding ground is not good, but fine shelter is afforded from all but southerly winds when a swell enters the Bay. The "Banksland" anchors close to shore, and cargo is lightered the few yards to the beach. Stevedoring is done by Eskimos. There is no dock, only a narrow landing beach at the foot of the Hudson's Bay Company property.

The Seasonal Rhythm

The seasonal rhythm of the Holman people is still the traditional one of a hunting and trapping society.

The animal trapped is the white fox. This activity begins about the middle of November when the fur has become prime. The trappers set out singly, or in groups of two or three, unaccompanied by women or children, and head their dog teams north or south along the shores of Minto Inlet or Prince Albert Sound. Their first trip is invariably their longest, lasting seven to twenty-one days depending on the initiative of the individual. Traps are set, baited and concealed with a wafer of snow. Subsequent trips are of shorter duration since only traps sprung by foxes or exposed by wind require attention. Some trappers place caches of seal along their traplines in summer to lighten the load of dog food they would otherwise have to carry in winter.

For cooking and warmth, most use a kerosene burning primus stove, which, during spells of extreme cold, may be pre-heated by means of a propane torch. When caribou are discovered by their tracks along the traplines, they are immediately pursued. No more than two trips are made before Christmas. Between journeys, the dogs are rested while their owners hunt seal or bear at the water's edge. By the new year, the sea is frozen over and traps are tended more frequently. In poor years when few foxes are taken, hunters will go farther afield up into Prince of Wales Strait to hunt polar bears. In some years, when dog and human food is scarce, a trapper may be forced to devote more time to sealing and less to trapping.

In the dead of winter, the sea around Holman freezes solid and seals may only be caught at their breathing holes. Since these holes are covered by a layer of snow, trained dogs are used to seek them out. A three-pronged barbed hook is let into the hole on the end of swiveled rope and held in place by a stick of wood placed across the snow with which the hole has been re-covered. As the seal comes up to breathe, it pushes the hook aside, but as it pulls away, the animal is caught by its flippers or other parts of its body. The seal quickly drowns, but the hunter checking his hooks need not uncover the breathing hole since he knows by the position of the toggle on the surface whether a seal has been caught.

The average hunter uses seven to ten hooks and these he checks daily or every second day. In some areas, the breathing holes may be no more than 100 yards apart. Some hunters will destroy holes which have no hooks set in them by exposing the opening to freezing, thus forcing the seal into the set hole.

Fox trapping is finished by May. The sun no longer sinks below the horizon, the cracks in the sea ice widen, and groups of individual seals haul themselves out to bask. During this period, the Eskimos stalk them. As the ice breaks up and finally disintegrates, seal hunting intensifies and reaches a peak about mid-July when the ice begins to move out of Prince Albert Sound. The seal is now hunted with a fast boat, or a canoe, powered by an outboard motor and shot at whenever it raises its head above the water.

Throughout late spring, some hunters put up tents along the shoreline near their sealing areas. During the last part of June or early July, most families prefer to live in tents rather than in their houses. They say the tents are cooler, drier, and often more comfortable, and permit them to move closer to the sealing grounds and fishing sites. The majority move to Mashuyak, a traditional seal camp on the edge of a narrow channel which separates Holman Island from the mainland.

"Jimmy's" is an average camp, and it may be of interest to describe it. It consists of a 10' x 8' canvas tent, complete with a 5" stove pipe and half an oil drum converted into a stove. The rear half of the floor space is covered with caribou skins, and a confusion of sleeping bags and clothing hiding a very young baby. The front section contains, off to one side, the fuel drum stove, the primus, and a variety of cooking utensils, including a wooden board which serves as a tray as well as a chopping board. Drinking water melted down from fresh sea ice is stored outside in a ten gallon fuel drum. Close by is the 7' x 7' canvas tent used by Jimmy's daughters. Pegged around the tents are the flensed sealskins stretched out to dry, hairy side down. Several more skins are lying about unfledged, but again with the hairy side down to prevent them being scorched by the sun.

Seals for use as dog food in winter lie buried in rows under mounds of gravel. Some of these are not skinned; these are the moulting adult animals with skins of little value. Sections of blubber are stored separately in 45 gallon drums, oil is rendered from it by the heat of the sun. From a sledge supported at either end by a fuel drum hang quantities of drying seal and char; the seal is very black, and the char a deep red. The inevitable pups gambol about the camp, and are checked occasionally by a kick, a curse or a rock flung in their direction. Nearby lie the sled dogs, tied to a long chain anchored by rocks. The dogs are panting in the heat of the sun, but look content and well fed. In the water, a few yards from the camp, are two fish nets and these are checked twice a day.

While Jimmy and his son cruise back and forth among the ice floes shooting seals, his wife flenses, stretches and finally scrapes the skins. After the skins are dried, she washes the fur

side with soap and water before taking the skin to the store. Jimmy and his son get as many as sixteen seals a day; of this number, they may bring ten home and bury the other six close to where they are taken.

Famine is no longer a threat of winter, but late June still holds a promise of feast. Ducks arrive in thousands and are shot in hundreds as they fly along the channel past the seal camp. Fish nets are set along the shore for Arctic char which are split and dried. In early August, the last of the ice has gone, seal hunting falls off, and the people move back to the settlement. This is a slack season. Nets for char are placed in the bays and inlets, and the men set to repairing houses, boats and gear. There is much visiting back and forth; regular meal hours are unknown, though most families eat one cooked meal a day, and this, as often as not is shared with neighbours. The Eskimos at Holman do not sell country food to each other. Those who have share with those who have not.

August is highlighted by the arrival of the annual supply ship. Almost everybody helps to pack supplies from the beach to the shore. For many years, this work was the only wage employment available to the community.

In September, the pursuit of char and seal accelerates. The char run has started, and seals are hunted in sheltered waters among the islands. At this time, the unfortunate hare, its fur turned white by nature while the first snows are still melting, is easily picked out as it hops from cover to cover. The ptarmigan, now heading south, are hunted by the children.

Freeze-up comes in early October. As soon as the ice along the shore permits travel by dog team, the hunters from Holman set off for Minto Inlet to fish the lakes of the Kugyuar River. Between three hundred to one thousand fish may be cached between ice blocks on the site by each family, and hauled back to the settlement in sled loads throughout the winter.

The Economy of the Holman Trading Area

The economy of the Holman trading area provides the exception to the rule in so far as fur is still the mainstay of the economy and income from wage employment amounts to little more than six per cent of the total. Table 20 shows the source and amount of cash income by each family in the trading area.

Table 20
Income By Family
June 1962 -- May 1963

Family	Employment	Fur ^{MM}	Handi-crafts	Social Legislation	Total Income
	Permanent Casual	'61-'62 ^{MM}	'62-'63	Relief	
1		51		200	1,259 1,510
2	41	(826) 1,430	209		238 1,918
3	155	(783) 1,369	124	216	331 2,195
4	142	(524) 1,382	405	455	136 2,520
5	228	(1,701) 295	129	144	796
6	183	(591) 1,809	138	1,012	408 3,550
7	275	(152) 298	17		61 651
8	315	(399) 590	521	24	1,524 2,974
9	25	(1,061) 871	109	360	88 1,453
10	20	(1,149) 2,202		216	2,438
11	15	(393) 142	279	264	1,443 2,143
12	7	(209) 54	20	852	1,295 2,228
13	24	(332) 772	94	72	83 1,045
14	144	(1,313) 900	111	474	23 1,652
15	109	(406) 753	65	168	128 1,223
16	39	(618) 1,425	261	368	120 2,213
17		127	280	192	1,202 1,801
18	429	(554) 728	58	352	155 1,722
19	217	(817) 1,037	373	104	1,312 3,043
20	217	(1,314) 997		272	97 1,583
Total Holman Income					
		\$2,585 (13,142)	\$17,232	\$3,193	\$5,745
					\$9,903
					\$38,658

Families Trading Into Holman					
101		(373) 250		216	71 537
102	30	(642) 887	291	240	45 1,493
103	11	(1,227) 1,000	622	240	1,873
Total for Families Trading into Holman					
		\$41 (2,242)	\$2,137	\$913	\$696
					\$116
					\$3,903

Grand Total \$2,626 (15,384) \$19,369 \$4,106 \$6,441 \$10,019 \$42,561

^{MM} Fur year runs from July 1 to June 30

^{MM} Not included in total income

Sources of Cash Income

The sources of the trading area's income are summarized in Table 21, and then discussed in order of importance.

Table 21

Holman Trading Area

Sources of Cash Income 1962-1963

Fur	\$19,369
Relief	10,019
Social Legislation	6,441
Handicrafts	4,106
Casual Employment	2,626
	<hr/>
	\$42,561

Fur

As in the Coppermine area, the last white fox take in Holman plunged to a low phase. Over 1,000 white fox were traded in 1961-62, a year later the harvest was halved. Again, as in Coppermine, the failure of the fox was compensated for by the increase in the take and price of sealskin. However, the Eskimos of Holman, unlike those of Coppermine, are in a seal-rich area and have traditionally hunted seal for food and fuel. During the year reviewed, they also hunted them for their skins, and with little effort, increased the 362 sealskins traded in 1961-62, almost five-fold to 1726 in 1962-63.

Relief

Local critics of the Government's social assistance program in the area point to Holman as a happy and independent community requiring but little relief. They compare this state of affairs with Coppermine where the Area Administrator is said to give out relief hand over fist to a shiftless lot who have lost all will to work.

But in fact the cost of relief in Coppermine at \$65 per capita is \$11 less than the figure for Holman. Expressed as a percentage of total income, relief payments amount to 17 per cent in Coppermine and 24 per cent in Holman. This comparison does not take into consideration the cost of seven Government owned houses occupied by Holman relief recipients. Were this done the difference in relief costs between the two communities would be greater yet.

However, this is not to imply that the issue of relief in Holman is abused, but rather that the Area Administrator, on his periodic visits to the settlement, is not able to control the issue

of relief as closely as he does in Coppermine, and that at the distance from his office, regulations governing relief are given a more liberal interpretation.

Social Legislation Payments

Two persons in the area received Old Age Security pensions, Family Allowance payments brings the total money received under this heading to \$6,441.

The Holman Eskimo Co-operative -- Handicrafts

The Holman Eskimo Co-operative was incorporated in April 1961. In 1963, its membership was made up of nine shareholders. However, the Roman Catholic priest, as secretary, bought skins and crafts from anybody in the settlement. For the period reviewed, the manufacture of handicrafts contributed \$4,106 towards the community's income.

Sealskin articles, principally rugs, amounted to three quarters of the total handicrafts made; soapstone carvings accounted for the balance. The high premium on sealskins caused a decline in the production of sealskin crafts to the point where, during the summer 1963, all skins were traded at the Hudson's Bay Company post, and no more crafts were produced.

To introduce a secondary industry, the priest had, in early 1962, encouraged those artistically capable of producing sealskin prints. A number of striking designs have since been brought out, and the priest expected that the sale of these would become an important part of the Co-operative's income. He expressed disappointment that the Eskimo Art Committee rejected the Holman prints because of 'outside' influence apparent in their design.

Casual Employment

It has been pointed out that for many years the only wage employment in the area was casual, and to be obtained once a year when the supply ship arrived to discharge its 120 to 150 ton cargo. The Hudson's Bay Company paid \$3.00 a ton for man-handling this freight to the trading post.

During 1962-63, activity in the area increased, and with it the work available. The Department of Northern Affairs, using local labour, put up seven houses for indigent Eskimos. Wages paid out on this project amounted to \$1,400. Unloading the supply ship and aircraft, along with wages paid out by both churches on the construction of mission buildings increased the income from casual employment to \$2,652.

Eskimo Working Capital

The families of Holman are more dependent on hunting than the residents of Coppermine, but the Holman group compares in number of hunters with the hunters of Coppermine's camps for whom information is available.

The overall availability of hunting equipment is summarized in the comparative Table below.

Table 22

Comparative Table of Hunting Equipment

	<u>Coppermine</u>	<u>Coppermine Camps</u>	<u>Holman</u>
Number of hunters	51	31	31
Hunters per boat	1.3	1.1	1.4
Hunters per boat motor	1.4	1.2	1.5
Dogs per hunter	5.9	7.1	8.4
Traps per hunter	58.1	119.5	145.1
Guns per hunter	2.3	2.4	3.1

Table C in the appendix shows the equipment owned by each Holman family. Excluding the dogs, the equipment listed has an approximate replacement value of \$31,000 or \$1,000 per hunter.

The value of a sled dog varies widely with the demand. Pups may be given away, adult dogs may be worth \$10 in spring, and as much as \$50 at the beginning of the trapping season.

Two bigger vessels are available in the community. The Hudson's Bay Company has a Peterhead fishing boat, and the Roman Catholic Mission readily lends its Columbia River type fishing boat. The latter is used to haul soapstone for the Co-operative. Since this count, the 36' schooner listed in the table of Coppermine equipment was brought to Holman by its owner.

Resources and their Utilization

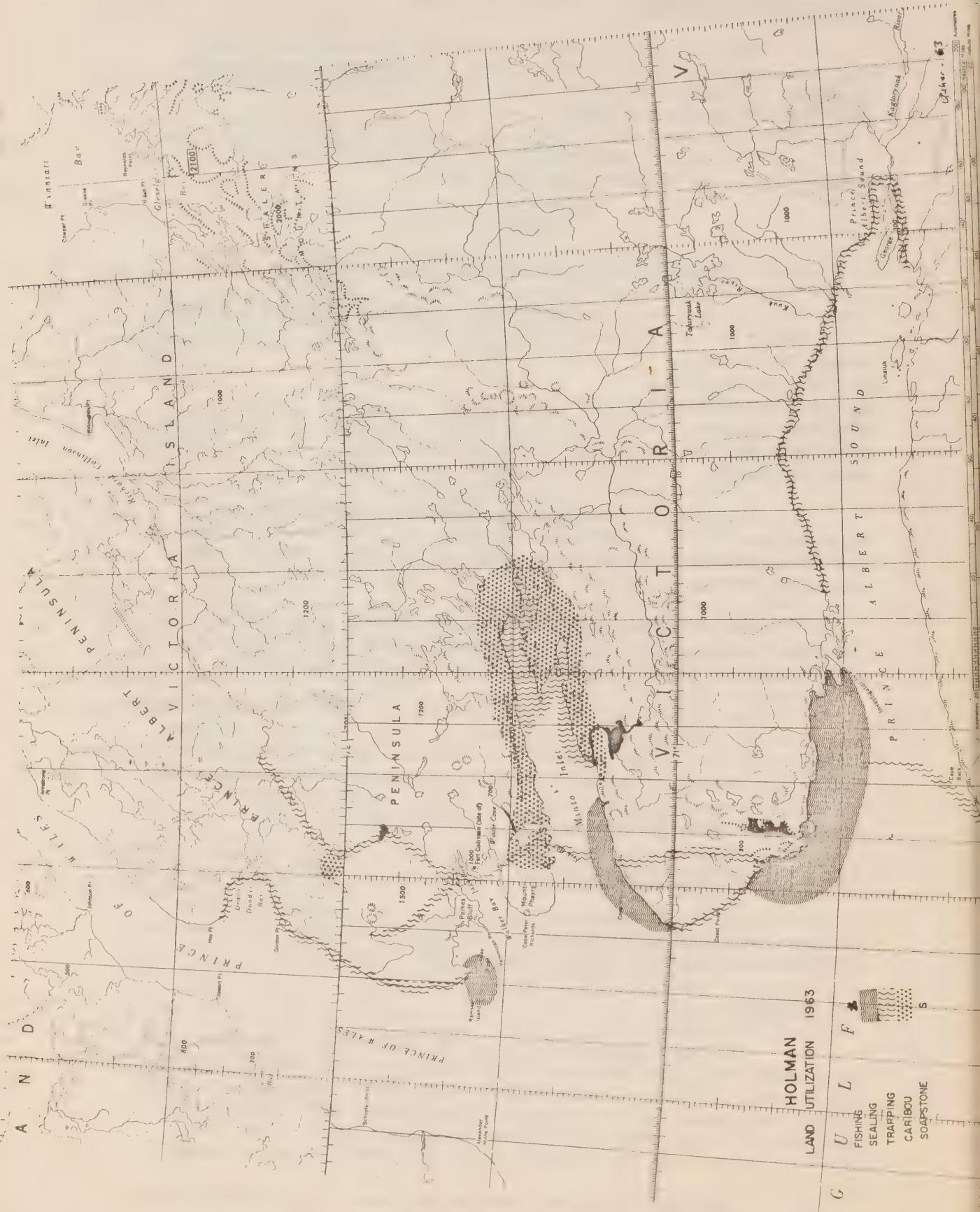
In the foregoing description of the seasonal rhythm, passing reference was made to the area's resources. This section will attempt a more detailed examination of these.

Fur Bearers

The most important of the fur bearers is the white fox. In a good year, the trappers from Holman take this animal along the shores of Prince Albert Sound, Minto Inlet, and on the Prince Albert Peninsula as far north as Deans Dundas Bay. Occasional trappers have wintered at Richard Collinson Inlet in the late 1940's, but no one has ventured this far north in recent years.

Traplines at Holman are longer than those at Coppermine, and individuals use three times as many traps. The terrain in the vicinity of Holman is rough, consisting of boulder strewn

MAP 10



plateaus and precipitous cliffs. Anyone wishing to trap in Prince Albert Sound must travel 40 miles east to beyond Investigator Island to get into suitable fox habitat. With the present distribution of the population, fox in the area is probably trapped to the limit. Table 23 reveals the fox take over recent years and also illustrates the relative unimportance of coloured fox.

Table 23

Fox Take in the Holman Area

<u>Year</u>	<u>White</u>	<u>Coloured</u>
1949-50	465	3
1950-51	3,599	28
1951-52	1,600	14
1952-53	231	2
1953-54	235	2
1954-55	1,824	17
1955-56	3,942	29
1956-57	1,162	17
1957-58	929	2
1958-59	675	-
1959-60	52	-
1960-61	3,202	44
1961-62	1,181	13

Source: Fur Export Returns,
Territorial Division,
Department of Northern Affairs and National Resources.

A few hare skins are traded annually, and though welcomed as a change of diet, the hare is not a reliable source of food. Its pelt fetches about 75 cents. Weasels are taken in small numbers. The largest catch in any one year since 1949 was 66, and in some years none have been traded. The value of its pelt is about 50 cents.

Historically, the Eskimos of Prince Albert Sound and Minto Inlet have always hunted the polar bear, and in some years depended on it as well as seal for food. (Hoare, 1927). The Holman Eskimos hunt this bear at the floe edge until Christmas, and after freeze-up, farther north in the Prince of Wales Strait. The skins are sold locally to the Hudson's Bay post and fetch no more than half the \$120 paid for skins in settlements close to DEW Line sites. Table 24 lists the number of bear traded over the past ten years.

Table 24

Polar Bears Traded

<u>Year</u>	<u>Bears</u>
1953-54	14
1954-55	9
1955-56	2
1956-57	17
1957-58	25
1958-59	13
1959-60	29
1960-61	13
1961-62	10
1962-63	2

Source: Fur Export Returns,
 Territorial Division,
 Department of Northern Affairs and National Resources.

Caribou

In winter and spring, caribou are reported to be fairly plentiful north of Walker Bay, and in the rolling country north and south of Minto Inlet. In summer, these caribou move towards the northern part of Victoria Island where they graze unmolested. Some summers, however, the Eskimos living at Walker Bay hunt caribou on Banks Island.

By all accounts, caribou appear to be on the increase in the area. In 1952-53, the caribou take in the area was estimated at 50 animals, by 1959-60, the R.C.M.P. had increased this estimate to 100. For the year 1962-63, local Eskimos, when interviewed by the Survey, put the total take as being close to 200 caribou. One quarter of this number were taken by two families resident in Minto Inlet. In normal circumstances, caribou meat is used for human food only. It is preserved by freezing in winter, and by drying in spring.

Musk-oxen

In recent years, musk-oxen have been common in the vicinity of Holman, Walker Bay, and at the head of Prince Albert Sound. During the Survey's visit to Holman, a musk-ox gazed at the settlement from the community's graveyard. MacPherson (1960) states that the Eskimos take musk-oxen in the interior for dog food.

Game Birds

Few geese are taken in the area. Knowledgeable informants estimate a total kill of 2,000 ducks and 1,000 ptarmigan. Ptarmigan are killed in the spring and fall, and ducks in the spring. A small quantity is stored throughout the summer in ice-cellars.

Seal

The traditional dependence of the people in the area on the ringed seal for food and fuel has been described. Seals are taken the year round on top of, and under the ice, and in the open water of Prince Albert Sound and Minto Inlet. Seal nets have been successfully used in the area by white traders, but appear not to be popular with the Eskimos since constant watch is necessary to guard against the nets being taken by moving ice. One thousand seven hundred ringed seal were traded in 1962-63, but the total take was probably closer to 2,500 animals. Of the 1,700 traded, one quarter were the higher priced silver jar.

Approximately 14 bearded seals were taken, 12 of them by the Eskimos living at Berkeley Point. The skin of this beast is valued for dog traces and waterproof boots.

Fish

Two species of fish are available to the Holman people. Trout occur in the lakes and Arctic char in the sea, off river mouths and in the bays. In winter and spring, trout are taken by jigging through the ice in nearby lakes or in lakes on the trapline. Casting with a modern rod and reel from the shore of a lake is a popular and rewarding pastime at Holman during the summer. On the whole, only a few lakes are fished. The many others that are never touched must contain a considerable number of fish.

Char fishing begins in spring when nets are set in ice cracks along the shore. A run takes place in mid-July and surplus fish are then dried and put up. Usually this supply does not last beyond the end of the summer. Since the weather is not always suitable for drying fish, the available fish are not used to full advantage; more might be taken if it were possible to preserve them. By the end of July, fishing falls off, but a few char are taken in the bays close to the settlement.

As previously described, the settlement obtains its winter supply of fish from the Kugyuar, the river draining through a series of lakes into Minto Inlet. This is the only big fish run in the Inlet. The rivers at the head of the Inlet are either rapid and without lakes, or barred by high falls. Fishing in Walker Bay is poor; the Eskimos in the area depend on seals.

Three rivers draining into Prince Albert Sound are known to have fair runs of char. These are the Kuuk, the Kagleoryuak, and an unnamed river draining a series of lakes on Wollaston Peninsula. The Kagleoryuak is the biggest of these systems and the many stone caches at its mouth testify to the sizable catches taken there. The run starts in late August or early September and continues until after freeze-up in mid-September. When the Hudson's Bay Company post at Read Island closed, the Eskimo groups who depended on these fish abandoned their camps and moved to Holman.

Eskimos who have camped at Richard Collinson Inlet, Wynniatt and Hadley Bays, remember that the rivers draining the northern section of Victoria Island were rich in fish.

Soapstone

Stone carvings are not an important part of the handicrafts produced at Holman. A small quantity of stone is brought by the Roman Catholic Mission boat from a dolomite deposit in Fish Bay, an Inlet on the north shore of Minto Inlet.

Tourism

The visitors who arrive in Holman are generally on business. There is no tourist trade as such, but the area has great potential. The trout in the lakes will strike at anything; sealing is always in progress, and the scenery is spectacular. Many of the men speak excellent English and with little training would make good guides. A sport fishing lodge has been suggested locally and this might well be operated by the Eskimo Co-operative.



M.V. Banksland in
King's Bay
Holman Settlement in
background

G.S.C. 111938



Seal scattered along shore of a spring camp near Holman.

MAP 11

BATHURST INLET SETTLEMENT



Chapter VIII

THE BATHURST INLET TRADING AREA

J.B. Bird (1961, p. 52) describing the population of Bathurst Inlet in 1954 states that "no family that had remained in Bathurst Inlet had completely abandoned the pre-European way of life, and some Eskimos still cling tenaciously to the traditional ways." The survey party visiting this area nine years later found this statement to be as true in 1963 as it was at the time of Bird's visit.

As in the rest of the region, quantities of European trade goods had trickled into the area by the end of the 19th century.

In 1920, Charles Klengenberg wintered his schooner in Bathurst Inlet, while the Hudson's Bay Company built a post on Kent Peninsula. A trading-trapping economy was now firmly established and the decade to follow saw much activity. Rival trading companies and trader-trappers arrived to compete for the Eskimos' trade. A number of posts opened and closed with surprising rapidity until in 1934 the Hudson's Bay Company was the only trading concern left in the area.

The present site of the Bathurst Inlet settlement dates to 1929 when Dominion Explorers Ltd., a mineral exploration company, maintained a base camp on the south side of the Burnside River Delta. Some of these buildings were eventually taken over, and moved 1/2 a mile by the Hudson's Bay Company, and today's settlement grew around this complex.

In 1935, the Oblates of Mary Immaculate put up a small mission close by. From 1955 to 1962, Pacific Western Airlines operated a radio navigation beacon, and on closing down, left the vacant buildings behind them. In 1958, the Mid-Arctic Gospel Outreach, Evangelical Mission, moved in to build a small frame structure which has been used intermittently as a residence and meeting place. Lastly, Northern Health Services erected a health station in 1961 to provide living and working facilities for its visiting professional staff. There are four Eskimo wood and canvas shacks in the settlement.

The settlement's location is not the best. It is too far from the major Eskimo camps, and the site itself has few facilities. Good drinking water has to be fetched by boat from the mouth of the Burnside River, a distance of two and a half miles. Drinking water of dubious quality is taken from a nearby shallow creek, or from indentations in the ground. Since refuse is frequently dumped into the willow bushes about the settlement, water from these sources could easily become contaminated.



Bathurst Inlet - Eskimo winter house.



Bathurst Inlet - Eskimo summer camp
Willow fuel piles in foreground.

Small boats can enter Burnside Inlet but larger ships must anchor about one mile east of the settlement. Since there is no permanent air strip at Bathurst Inlet, float aircraft service the settlement during summer, and ski-equipped aircraft supply it in winter.

The white population of Bathurst Inlet consists of a Roman Catholic priest, a Hudson's Bay Company post manager, and his wife. The Eskimo population of the area has been reduced by recent emigrations of significant proportions. J.B. Bird (1961, p. 54) shows the Eskimo population of the area, (excluding Contwoyto Lake) to have been 135 in 1954. According to Bird the construction of the DEW Line in 1955 caused those Eskimos who spoke English to seek work in Cambridge Bay and at other DEW Line sites. Damas adds¹ that the largest number of men who left the area at that period were bachelors whose motives for leaving had much to do with seeking wives. The practice of female infanticide at least until 1940 resulted in an unbalanced male-female ratio in the area. The available employment did not absorb all of these men. A few of those laid off after the original construction phase returned to Bathurst Inlet. By 1963, however, only 97 people traded into the post at Bathurst Inlet. This population was divided into five camps as shown in table 25.

TABLE 25

Eskimo Population - Bathurst Inlet
Summer 1963

Bathurst Inlet (settlement)	6 families	(18 individuals)
Gordon Bay	5 "	(31 ")
Brown Sound	4 "	(19 ")
Arctic Sound	3 "	(13 ")
Daniel Moore Bay	4 "	(16 ")

Although the above locations are traditional sites, and some families have built shacks at them, the number of people at each place may vary from year to year, and indeed from season to season.

The housing is what one might expect to find among nomadic people. As already mentioned, there are four shacks in the settlement, in addition there are two shacks in Daniel Moore Bay and one in Arctic Sound. Most of the people use canvas tents in spring, summer and fall, and caribou skin tents or snow houses in winter. At Bathurst Inlet large amounts of willow are cut in summer, and dried in piles on the beach. This fuel, and birch, is burned in the ubiquitous steel - drum stoves used for cooking tea and food. Once the stock of dried willow is used up, and the willow stands are covered by snow, cooking and heating is done by single burner gasoline or kerosene primus stoves, or where the supply of seal allows, by means of seal oil burned in the traditional soapstone lamps.

¹Personal communication

Until 1957, when Northern Health Services opened a nursing station at Cambridge Bay, the closest available medical facilities were at Coppermine. Bathurst Inlet did have an annual medical clinic at the time of the X-ray survey but that was all. Today Bathurst Inlet is part of the Cambridge Bay Health District, and as such is looked after by the nursing staff in Cambridge Bay. However, no regular visits are made; at the time of the survey a nurse had not been to the area for over a year. Local dispensing is done by either the Hudson's Bay Company manager or the priest. Advice for complicated cases is sought from Cambridge Bay over the Hudson's Bay Company radio. Serious cases are evacuated by aircraft.

Few people in the area have a working knowledge of English, and those who do, appear reluctant to use it. Children of school age have occasionally been sent to the Mission schools at Aklavik or Coppermine, and more recently to the Federal school at Inuvik. Thirteen children went during the 1962-63 school year. With the exception of one Roman Catholic family the people of Bathurst Inlet are Anglicans.

The Economy of the Bathurst Inlet Trading Area

The economy of the Bathurst Inlet trading area is that of a hunting and trapping society. No family has an income of over \$1,000 a year. Much of their food comes from the land. Table 26 illustrates the various sources of cash income.

TABLE 26

Bathurst Inlet Trading Area

Sources of Cash Income - 1962-1963

Fur	\$5,247
Social Legislation	5,040
Relief	3,248
Casual Employment	2,134
Handicrafts	2,060
	<u>\$17,729</u>

Table 26 reveals fur to be the biggest single source of cash income - \$5,247.00. Fox skins accounted for 56 per cent of this total, sealskins for 30 per cent, caribou hides, wolverine and wolf-skins for the remaining 14 per cent. Here as in every other area of the survey region the fox cycle was at its lowest during the year reviewed. Also, the people were only just beginning to take an interest in preparing sealskins for sale. An increase in the revenue from furs can thus be expected over the next two or three years.

Statutory payments need no explanation. Table 26 suffices to illustrate the role Family Allowance and Old Age Assistance payments play in a subsistence economy.

The same remarks apply to relief although this is issued in the form of goods rather than in cash. Table 27 shows the various categories and values of items given out during the year reviewed.

TABLE 27

Bathurst Inlet Trading AreaRelief by Type 1962-1963

Food	\$ 1,635
Ammunition	956
Dog Food	346
Fish Nets and Twine	161
Oil and Gasoline	61
Tenting	46
Clothing	43
Total	\$ 3,248

Income from casual employment includes the hire of an Eskimo boat by a government survey party which amounted to almost half the total shown. With the exception of \$100 paid out by the Hudson's Bay Company for unloading the supply ship, and other casual labour, the balance of income shown under this heading was wages paid out over a year's period by a research party from the National Museum of Canada. In an average year, income from equipment hired and casual labour is much less.

Cash from the sale of soapstone carving amounted to somewhat more than 20 per cent of the total earned income. Some member of every family carves, but the number of talented carvers does not exceed 5 or 6. Carvings are sold to the Hudson's Bay Company or to tourists at prices considerably lower than what carvings fetch at other locations where greater demand results in higher prices.

The capital resources of the Bathurst Inlet Eskimos are slender. The twenty-seven hunters of the area share one 32' Columbia River type fishing boat, 18 jolly boats, dinghies and canoes. Most of the boats are in poor condition and some are beyond repair. Five of the jolly boats are powered by small inboard motors, in addition there are five outboard motors of 3.5 to 10 horsepower for use on canoes. Homemade canvas sails are also used. Every family has a sled and about seven dogs to pull it. Some other hunting equipment includes 1,070 traps, 49 fire-arms of various calibres of which the .22 and the 30/30 are the most popular. During the summer of 1963 the Area Survey counted a scant 20 fish nets, not nearly enough to catch all the fish required by both humans and dogs. The foregoing equipment is treated with astonishing carelessness. Fish nets and traps are often abandoned at the place they were last used, fire-arms lie exposed to the elements, and engines seldom get the maintenance they require.

The Hudson's Bay Company's intention to close its post in Bathurst Inlet during 1964 has been referred to in the introduction. The Company's claim that the present population does not support a trading operation on a sound and economic basis is largely substantiated by the foregoing description of the area's precarious economy. The consequences and possible alternatives are discussed below. The same general considerations apply to the adjacent Perry Island trading area where the Hudson's Bay Company has not made known its intentions although similar depressed economic conditions exist.

No matter how much the Eskimos of Bathurst Inlet may cling to traditional ways they are nevertheless dependent on European goods and staple foods. Once trading facilities are withdrawn they will be forced either to move to where a store exists, or to travel the 150 to 175 miles to Cambridge Bay whenever they require provisions or medical help. That they will choose the latter is unlikely since they have neither the equipment nor the resources for regular journeys over such distances, much of it over open and treacherous waters. It may be taken for granted then that the 22 families will eventually move to Cambridge Bay. The section in this report dealing with Cambridge Bay clearly shows that the opportunities for wage employment in that area are limited and that local resources are barely sufficient to meet needs of the existing population.

Immigration on this scale would inevitably add 97 individuals to the number who now require assistance. It should be pointed out that present relief costs at Bathurst Inlet, where there is greater dependence and availability of country foods, average under \$34 per capita.

The Eskimos now in Bathurst Inlet are there by choice, some have tried life in Cambridge Bay and have rejected it for life on the land. Compared with conditions in Southern Canada their living standards are dismally low. The next generation may wish to abandon present ways but this generation obviously does not. The possibilities of having these Eskimos remain in their own country will be explored in the pages to follow.

Earned cash income for the year reviewed in Table 26 was as low as it is ever likely to be. Total cash income from all sources averaged \$806 per family, but this figure excludes the value of country foods consumed in the area as illustrated in Table 28.

TABLE 28

Value of the Principal Country Foods Taken Annually in
Bathurst Inlet

<u>Species</u>	<u>Av. Annual Take</u>	<u>Av. Annual Take in lbs.</u>	<u>Value¹ per pound</u>	<u>Total Value</u>
Caribou	800	80,000 ²	.50	\$ 40,000
Seal	400	30,000 ³	.50	15,000
Fish	-	33,000 ³	.15	<u>4,950</u>
				Total \$ 59,950

¹Loughrey, 1961²Human Food only³Human and Dog Food

The total value of country foods shown amounts to almost \$60,000.00. This represents maximum utilization, so that 50 per cent of the total might be a more realistic figure. If this value is accepted then each family consumes \$1,360 worth of country foods. Not taken into consideration here are country foods such as berries, migratory birds, eggs, and the ground squirrel. During the spring and summer months the ground squirrel provides a reliable source of food, and its fur is used for clothing.

It is unlikely that the Cambridge Bay area can provide a transplanted Bathurst Inlet population with an equal quantity of country foods. In other words, while the average family manages on a cash income of \$800 in Bathurst Inlet it could not do so in Cambridge Bay, but would require at least double this amount.

Forty years ago the Bathurst Inlet area supported 163 people (Rasmussen, 1932). There is no reason to suggest that with improved equipment and techniques, and the now world wide demand for sealskins, the area cannot sustain the reduced population of today. Given the leadership and organization now lacking, it is not unreasonable to propose that earned income in the area could be doubled by more vigorous use of the underexploited resources.

The Underexploited ResourcesSeal

Ringed seals are found the year round in Bathurst Inlet, but are more numerous in the waters north of the settlement. As at Coppermine and Holman seals are shot while basking on the ice in spring, hunted from boats during open water, and caught with hooks at their breathing holes during winter. Another method no longer used to the west but still employed at Bathurst Inlet and Perry Island is the traditional one of waiting motionless, perhaps for hours, at the seal's breathing hole to harpoon it when it comes up for air. Since an individual animal may

have as many as a dozen breathing holes, a number of men work together to increase their chances of success. It goes without saying that the waiting method of sealing is the least productive.

During past years the Eskimos of the area have taken for their own use an annual average of 400 seals. Only a few skins were used for clothing; the surplus was fed to the dogs. During the year reviewed 300 skins were traded at the post, this number could have been greater but the low price these skins commanded provided insufficient incentive to start the women on the laborious task of cleaning them. As recently as May, 1963, when some traders in the western part of the region were paying over \$20 for a well prepared sealskin, the Bathurst Inlet post paid an average of \$5 a skin. By June, however, local prices rose to the levels prevailing elsewhere in the region and stimulated the pursuit of seals.

The Area Survey working in Bathurst Inlet demonstrated the superiority of seal nets over other hunting methods used in the area, and aroused the Eskimos' interest. According to officials of the Fisheries Research Board, the present seal take in the area can be doubled without injury to the breeding stock. An annual catch of 800 seals at a price conservatively estimated at \$12 a skin would mean \$9,600 to the community, not to mention the valuable by-products of meat and oil.

White Fox

Tables in previous sections of this report have illustrated the fluctuations of the white fox population. During the year reviewed an all time low of 167 white fox were traded. A nine-year average take for the area is 671 foxes. Although this average reflects the activity of a greater number of trappers than are now in Bathurst Inlet a target of 600 foxes annually is not too high for 27 trappers who are scattered across the land in strategic locations. The use of scent posts and instruction in more efficient trapping techniques would reward a trapper with greater returns than he is now getting. White fox pelts across the Northwest Territories realized an average price of \$14.37 during 1962-1963 season. This figure applied to 600 foxes yields \$8,622.

Caribou Skins

Until the middle 50's caribou were taken in such numbers by hunters from Bathurst Inlet and the interior that year after year caribou skins surplus to local needs were exported to areas of scarcity, and Bathurst Inlet became one of the principal trading posts of surplus skins in Canada.

Banfield (1954 p. 91) shows the average kill for Bathurst Inlet including Contwayie Lake to have been 5,125 animals annually. Slaughter on this scale ceased with the decline of the herds and

government action to protect the survivors. To discourage the indiscriminate slaughter of caribou for skins the Hudson's Bay Company agreed to pay hunters no more than an average of \$1.50 per skin. Table 29 shows the declining role of caribou skins in the economy.

TABLE 29

Caribou Hides Traded at Bathurst Inlet¹

<u>Year</u>	<u>No. of Hides Traded</u>
1949-50	2,100
1950-51	900
1951-52	1,600
1952-53	1,250
1953-54	670
1954-55	1,030
1955-56	470
1956-57	210
1957-58	255
1958-59	250
1959-60	765
1960-61	300
1961-62	120

Caribou can still be seen grazing near the buildings of the Bathurst Inlet settlement. The animal remains an important source of food, and much meat is dried for later use. Although the low price of caribou skin discourages wanton slaughter there is evidence that the hunter, once his own needs are satisfied, tends to abandon surplus skins on the tundra. In the spring of 1963, 200 caribou were taken but the skins of the animals were not saved because of shedding hair, and holes caused by the larvae of the warble fly, they were considered useless locally at this season. However, the Hudson's Bay Company Post Manager stated that these skins would have found a ready market in the Spence Bay area². In this case stricter enforcement of the game regulations would have added to the community's income.

Fish

The importance of fish as a food varies from group to group. Some camps are poorly located for fish so that fishing is a secondary activity. The people camped at good fishing sites rely heavily on char, lake trout and whitefish the year round. As elsewhere the main run occurs in spring and fall. Tom cod for human and dog food are taken by jigging through the ice. Cod, sole, herring, smelt and capelin are also caught but in such quantities as to be of little economic importance.

¹File 401-22-5, Northern Administration Branch

²Field Notes, D. Damas, National Museum

The river systems are blocked by falls and are too small to support a large scale fishery but individual rivers could be much more heavily fished. The area survey team fishing at the same sites as local Eskimos using the same nets but tending these more often got many more fish.

Game Birds

In addition to the resources described elsewhere as underexploited, mention must be made of the bird life, and also of the muskoxen in the area.

The former abounds. Hanson (1956) recorded some 47 species and subspecies in the Perry River area alone. Of special interest was the discovery, in 1938, of the rare Ross¹ goose nesting grounds some distance inland from the mouth of the Perry River. Although hundreds of Canada, snow and white-fronted geese stop to sand on the large flats near the mouth of the Burnside River during their spring migration, they do not remain to nest. Eider and Oldsquaw ducks found in abundance nesting in the Perry Island area are relatively scarce in Bathurst Inlet. Other species of birds, especially the native ptarmigan, are common to both areas.

These birds provide a seasonal variation in the peoples' diet, but are not exploited to a large degree. While in Bathurst Inlet during the spring migration of geese, the Area Survey observed that the Eskimos made little effort to hunt them, although the geese remained within a few hundred yards of the settlement for several days. There were indications, however, that at this time the people were eating numbers of Arctic and other loons.

Muskox

The muskox population in the area has been estimated at 450 animals (Tener, 1958). Although muskoxen have been protected by law since 1917 there is no doubt that the Eskimos of Bathurst Inlet still take an unknown number every year. R.C.M. Police investigations revealed that at least 25 muskoxen had been killed during 1963.² Local Eskimos invariably deny taking muskoxen, but when confronted with evidence will admit that they did so only in the face of starvation. Certainly the Area Survey saw blubber pounders and knife handles fashioned from muskox horns in every camp it visited in Bathurst Inlet.

Soapstone Carvings

Local soapstone is found in a variety of hues and shades. Advantage is taken of this natural coloration to produce carvings of merit and appeal, but as already pointed out, these carvings are sold to the Hudson's Bay Company at prices considerably less than market value. The Area Survey is convinced that income from soapstone

carvings could easily reach \$4,000 annually if assistance to market these carvings were given.

Summary

The Bathurst Inlet area is not a land of milk and honey but this report has shown that some of the major renewable resources are not fully used, and that by the efficient exploitation of these the Eskimos' income can be raised.

To do this it will be necessary to introduce leadership, organization, new ideas and techniques. These can only come from without. The man appointed to give this guidance will require, amongst other things, a 35' seaworthy boat, a number of fish and seal nets, and a motor toboggan for travel during the winter months. To replace the closing trading post he must be issued with a year's supply of staple goods and hunting equipment for sale to the people of the area.

Table 30 summarizes the area's potential cash income and compares it with its current cash income.

TABLE 30

Potential Cash Income - Bathurst Inlet

	<u>Current</u>	<u>Potential</u>
Fur	\$ 5,247	\$20,000
Social Legislation	5,040	5,000 ¹
Relief	3,248	3,000
Casual Employment	2,134	1,000
Handicrafts	<u>2,060</u>	<u>4,000</u>
	\$17,729	\$33,000

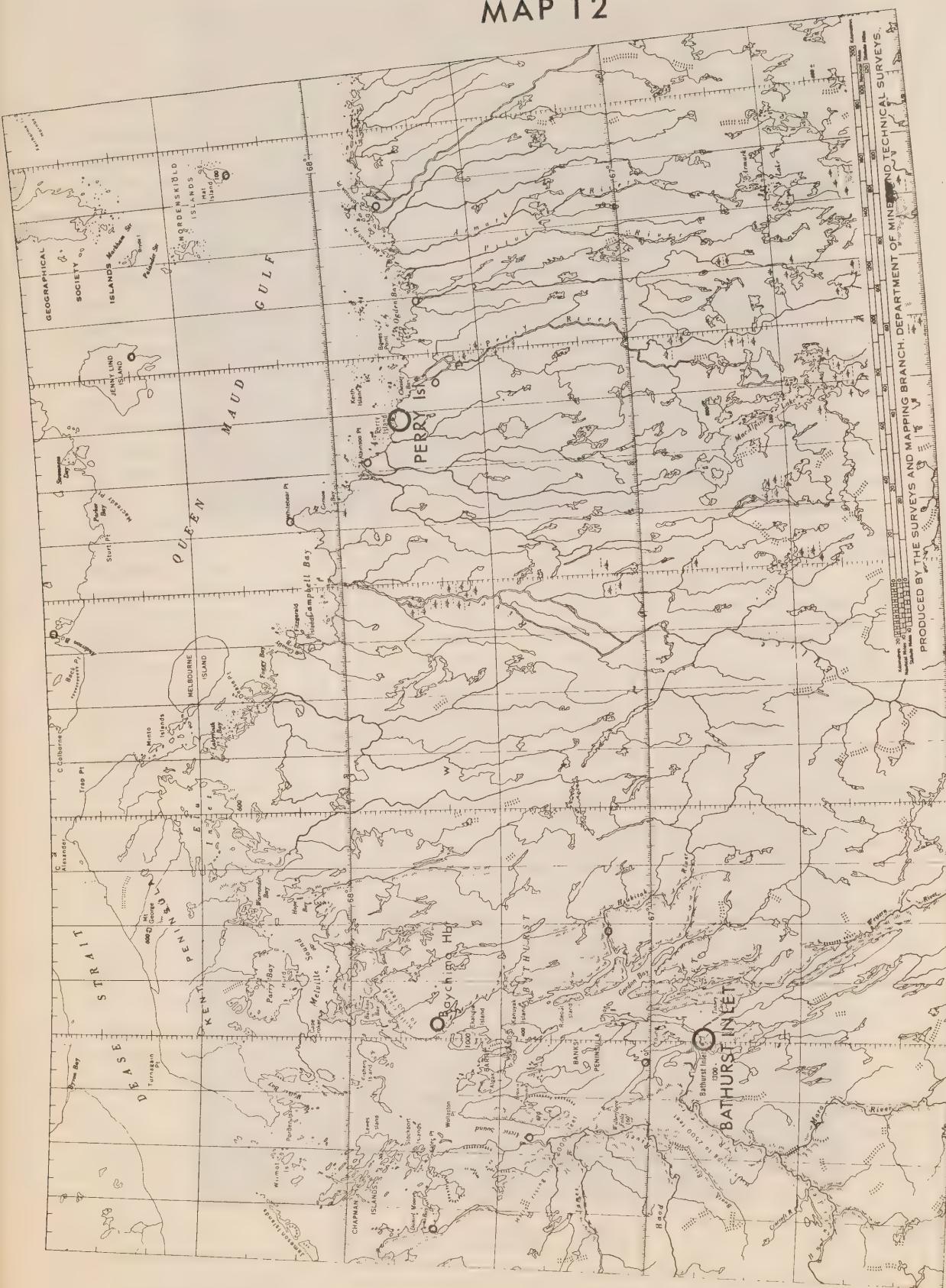
¹ Shown as unchanged but can be expected to increase with the natural increase of the population, and the 1963 raise in Old Age Assistance and Security payments.



Bathurst Inlet - A small garden under glass.

Eight potatoes planted under glass in several inches of local top soil and peat moss on June 13 produced 55 potatoes of edible size three months later. Other vegetables such as carrots produced good foliage but small roots while radish and lettuce provided a continuous crop throughout the summer.

MAP 12





Bathurst Inlet settlement.



Perry Island settlement.

CHAPTER IX

THE PERRY ISLAND TRADING AREA

The Perry Island Trading Area was the last in the survey region to be settled by traders. In 1924 the DeSteffany Brothers established a short lived floating post at Ellice River. Two years later permanent posts were opened by the Hudson's Bay Company at Ellice River, and by the Canalaska Trading Company at Perry River. In 1928, however, the Government persuaded that the presence of trading posts at Kent Peninsula, Ellice River and Perry River interfered with the caribou migrations to Victoria Island, requested the trading companies to close these posts.¹ The traders at Ellice River and Perry River then withdrew to Cambridge Bay. The vacuum they left was immediately filled by a local Eskimo who began trading on Flagstaff Island near the mouth of the Perry River, obtaining his supplies from the Canalaska Trading Company. His business prospered to the point where the Hudson's Bay Company, suspecting that it was being outmanoeuvered, applied for a licence to open a post at the mouth of the Perry River. This was granted in 1936. But when two years later the Canalaska Trading Company moved out, the Eskimo trader began buying his goods from the Hudson's Bay Company. Thus in 1941, with the threat of real competition removed, the Hudson's Bay Company closed the post it had opened five years earlier, and continued to sponsor the Eskimo's trading activities for 16 years. In 1957 the Eskimo trader got into personal difficulties and was forced to close his post. The Hudson's Bay Company then returned to the area to open a new post; this time at Blackwood Point, the northern extremity of a small island six miles to the west of Flagstaff Island, subsequently named Perry Island. This post has since expanded to a residence, a store, and two warehouses.

Close to this complex are two Eskimo wood and canvas shacks, a frame house owned by the Eskimo trader referred to above, a Roman Catholic chapel built in 1959, and a Health Station similar to the one at Bathurst Inlet was completed in 1962.

The settlement's location at the head of a shallow lagoon exposed to the prevailing winds and the open sea is not satisfactory. The Island itself offers little room for expansion, and the supply of fresh water is limited. Boats supplying the post must anchor over a mile away. Navigation in the waters about Perry Island is complicated by numerous shoals and reefs, and in some years the entrance to the lagoon may be blocked by ice.

The population of the area, with the exception of the Hudson's Bay Company Post Manager, is all Eskimo and largely nomadic.

¹Trading activities of this period are described in Northern Administration Branch File 20-E4-3, vol.1

Nineteen families totalling 77 individuals trade into the Perry Island post. All but two families have their main camps away from the settlement. The distribution of the population during the summer of 1963 is shown in Map 2 and Table 31 below.

TABLE 31

Eskimo Population - Perry Island
Summer 1963

Perry Island	2 families	(13 individuals)
Whitebear Point	3 "	(11 "
Atkinson Point	1 family	(5 "
Mouth of Perry River	2 families	(7 "
Inland on the Perry River	3 "	(9 "
Ogden Bay	2 "	(6 "
Johnson Point	3 "	(12 "
Hat Island	3 "	(14 "

Table 31 is arbitrary. Although all Eskimos in the area at the time of the survey are included, their whereabouts varied from day to day, and the three families shown as being at Johnson Point had actually left the area, allegedly because of ghosts, but were expected to return to this site, their usual hunting and trapping area.

The attractions of Cambridge Bay and employment on the DEW Line have resulted in a movement of people from the area over the years. Although these emigrations have not been as striking as those from Bathurst Inlet, the population of the Perry Island Trading Area has nevertheless declined from 96 in 1960 to 77 in 1963.

There is little permanent housing. On Perry Island the frame house mentioned measures 36' x 24' and is occupied by the Eskimo Assistant Post Manager, his seven dependents, and often any number of visiting friends and relatives. The two wood and canvas shacks on the Island also are often packed with visitors from the camps, and are always overcrowded. One family has a wood and canvas shack at White Bear Point, and there is a small frame house on Flagstaff Island abandoned by a family now in Cambridge Bay. Because of the lack of permanent housing, especially winter housing, the bulk of the population must live in snow houses in winter, and in canvas tents for the rest of the year. When suitable snow is available a snow house may be built in one to two hours. The average family builds three in a season, moving to the second when the first becomes dirty, and much of the snow wall has turned to ice. The actual number required in a season varies with the size, movements, and inclination of the individual family.

The following is a description of a snow house and its furnishings occupied by a family of three during the winter of 1962.¹

"The house is eleven feet in diameter. The bed platform takes up about six feet of the floor space, front to rear, and is covered by caribou skin lain over willow mats. The inside of the roof is about eight feet high. The wood door set in a frame measures four feet by 20 inches. An 18 inch square ice block over the door serves as a window.

A small wood burning stove with its chimney insulated by a piece of caribou hide where it passes through the roof sits on a ten gallon drum which is also used to store meat and fish. Off to one side a box provides a cupboard for mugs, pots, and a primus stove. Small boards support the soapstone lamp, and a rack over the cooking place is used to dry clothing.

The house seems to be warm enough at night. In the evening the temperature outside was -32°F . and the wind about 10 miles per hour or less. With a Coleman lantern and a primus stove as the only source of heat, the temperature ranged from $+24^{\circ}\text{F}$. on the floor in front of the bed platform, to $+36^{\circ}\text{F}$. on the bed and $+46^{\circ}\text{F}$. three inches from the roof."

Compared to Bathurst Inlet the Perry Island area is less well supplied with willow so that this is not stock-piled, and the people depend more on other fuels, such as kerosene, seal oil, and in some instances beef tallow has been used. Lacking any other fuel, about eight to ten gallons of kerosene a month suffice to provide a family in a snow house with light, and heat for cooking.

Health facilities are identical to those in Bathurst Inlet, and the same may be said about education except that the number of Perry Island Eskimos who have been to school is even less than the number who went from Bathurst Inlet. Until 1959, no more than two or three had attended the Mission school in Aklavik. Since the opening of the Inuvik Federal school the number of pupils enrolled has increased from year to year. Four boys and eight girls went in 1962. As in Bathurst Inlet, the Eskimos in the area are predominately Anglicans. Two families are Roman Catholics. The Priest from Bathurst Inlet visits Perry Island from time to time, staying there, and at the various camps for periods of weeks or months.

¹Field Notes, D. Damas, National Museum of Canada.

The Economy of the Perry Island Trading Area

The economy of the Perry Island Trading Area compares closely to that of Bathurst Inlet. This is also a hunting and trapping society dependent on the resources of the land, statutory and relief payments. As Table 32 shows, unearned income accounts for over half the total.

TABLE 32

Perry Island Trading Area

Sources of Cash Income - 1962-1963

Social Legislation	\$ 6,048
Fur	5,262
Relief	3,779
Permanent Employment	1,200
Casual Employment	<u>643</u>
	\$16,937

The relief issued consisted of \$2,000 worth of surplus canned pork, part of a shipment sent into the area in 1960 in order to relieve hunting pressure on the caribou herds; fish valued at \$679, the product of a local fishery project started by the Area Administrator; and a ton of dog food costing \$460.

Permanent employment represents the wages paid to the Assistant Post Manager who is the only Eskimo in the area in regular employment. Casual employment was provided during the year reviewed by two government field parties working in the district, and by the unloading of the annual supply ship. However, revenue from the last source, while regular, is not significant. Freight delivered to the settlement averages between 20 and 30 tons a year and this is unloaded at a standard rate of \$5.00 a ton.

The bulk of earned income is derived from the fur of the white fox. During the year under review 469 fox pelts were traded. In a good fox year this take has been doubled. As Table 33 reveals, the Perry Island trading area is one of the best white fox ranges on the western Arctic mainland of Canada. Over the past nine years a relatively small number of trappers has outproduced not only Bathurst Inlet, but also Coppermine, and the entire region between Cape Parry and Tuktoyaktuk.

TABLE 33
Comparative Table of White Fox Takes

<u>Year</u>	<u>Perry Island</u>	<u>Bathurst Inlet</u>	<u>Coppermine</u>	<u>Tuktoyaktuk, Cape Parry Region</u>
1954-55	1,741	1,177	588	3,396
1955-56	3,165	837	183	467
1956-57	620	978	512	201
1957-58	939	391	523	420
1958-59	933	400	710	822
1959-60	155 ¹	678	468	163
1960-61	1,034	839	1,470	473
1961-62	964	577	588	1,417
1962-63	469	167	296	628
Total	10,020	6,044	5,338	7,987

Source: Fur Export Returns,
Territorial Division,
Department of Northern Affairs.

Compared to the people of Bathurst Inlet the 19 trappers of Perry Island do not appear to exert themselves. At Bathurst Inlet traplines are of such length that they take four days to cover while at Perry Island these trips are, with two or three exceptions, one day affairs along the valleys of creeks, and trappers return to their camps the way they came. Trapping returns from short lines could be increased by using circular lines, and generally by running longer traplines, the use of a scent post, and by the more efficient use of traps. Current practice is to plaster the approaches to caches of caribou meat with numerous traps, while this catches foxes the same result could be achieved with fewer traps more effectively placed.

In short, trapping in this area as in Bathurst Inlet could be more productive if improved trapping techniques were used.

The local Hudson's Bay Company Post Manager has stimulated competition between trappers by displaying a graph in his store which showed at a glance the number of foxes caught by each man. A trapper's column was adjusted for all to see with every batch of skins he brought in.

It is of interest to note that until the summer of this survey the Perry Island Eskimos had sold no sealskins at the trading post. In June, 1963, when the Hudson's Bay Company was offering as much as \$28.00 for a single skin, a few dozen grease-stained, and poorly-handled skins were brought in. In general, the people of the area have not taken advantage of the current high prices. Hundreds

¹An influenza epidemic kept many trappers from their lines. During the same year disease took several of their dogs.

of skins simply never reach the trading posts. Normally everybody participates in sealing activities. In late April and early May, two or three villages are set up on the ice about 20 miles from the mainland.

This is in contrast to Bathurst Inlet where offshore seal camps are not established. Another distinguishing feature is the virtual absence of seal hooks in the area. The ethnologist, Damas, describes this as "Indicative of incomplete adjustment to improved exploitive techniques that are available".

As already described, seals are taken at their breathing holes, and in addition, females and young are harpooned in their lairs under the snow.

Caribou plays a vital role in the life of the Perry Island Eskimos. Damas states that of the local resources caribou seems to be the most successfully and energetically exploited.

The spring migration through Bathurst Inlet (Kelsall, 1955) continues north-eastward towards the Ellice and Perry Rivers. After calving the herd normally makes its way back westward, but variable numbers remain in the country throughout the winter, and are hunted sporadically in connection with trapline activities.

During the spring of 1963 local Eskimos estimated 500 caribou at the Ellice River and an equal number at the Perry River. About 700 to 800 caribou are taken annually.

In summary, seasonal activities in the Perry Island area may be described as follows:

- | | |
|-----------------------|---|
| Late April and May | - sealing on the sea ice. |
| Early and late summer | - fishing on the rivers and along the coast. |
| August | - caribou are hunted, particularly for clothing skins, meat is dried and left in caches for winter use. |
| Fall and early winter | - fishing in rivers and lakes, fox trapping, caribou hunting. In the absence of caribou, seals are hunted at their breathing holes. |

The group at the mouth of the Ellice River, originally from the lower Back River, depends more on fish than any other group in the area. Indeed, fishing is their main food-getting activity, and their camp is well placed for this. Twelve pound char are not uncommon in the Ellice River.

Summary

The Eskimos of Bathurst Inlet and Perry Island lead similar lives and pursue the same activities. However, the marine and game resources of the Perry Island area exceed those of Bathurst Inlet, but are not exploited to the same degree.

It has been shown that as a fox producing area, Perry Island is second to none on the Western Arctic mainland, but only small sections of the area are trapped.

Queen Maud Gulf, particularly the waters about Hat Island, has a much larger seal population than Bathurst Inlet, but seal are taken in a desultory fashion, and only very few skins reach the trading post.

There is no doubt that with the co-operation of the local people the economy of the area could be substantially improved. The Eskimos are aware of better hunting and trapping techniques, but are reluctant to accept the organization and orders that these involve. Damas relates this to the lack of development of native leadership even in aboriginal times. In a society where there is no internal organization above the level of perhaps a father and a married or bachelor son or two this organization must come from without.

At present the Eskimos of the area appear satisfied with a minimal subsistence, day-to-day, way of life. They are passing through a difficult period of adjustment, and have a human susceptibility towards welfare handouts. In some cases these handouts have removed the peoples' incentive to provide for themselves.

Chapter XTHE CAMBRIDGE BAY TRADING AREABackground

The Cambridge Bay trading area encompasses an area bounded by Richardson Island on the west and Jenny Lind Island on the east (Map 2). Copper Eskimos distributed along the south coast of Victoria Island, at camps of the southeastern coast, and Jenny Lind Island, trade into the settlement of Cambridge Bay. This community has emerged in the modern DEW Line period as a growing transportation and administration center to which Copper Eskimos have gravitated. From this center, the Department of Northern Affairs administers the Perry Island and Bathurst Inlet Trading areas as well as the Cambridge Bay Trading area. Most of the modern immigration into Cambridge Bay has taken place from these trading areas. A 13 room Federal school and 200 bed hostel is planned, with construction to start in 1964, which, if realized, will make Cambridge Bay an educational center for perhaps an even larger area. Students will be drawn from the Spence Bay area and perhaps the Coppermine area as well. As the population of Cambridge Bay grows, through the expansion of government agencies and the attraction of community amenities, the economic problem of supporting such a growing population becomes paramount. This chapter examines the resources of the Cambridge Bay area to equate present and potential income with present and future needs.

Eskimos who frequented Cambridge Bay to fish at the Greiner River called it Ikaluktutsiak, "the fair fishing place". In traditional days, it was only a seasonal meeting place during the fishing season. Larger encampments were to be found outside the Bay at Starvation Cove, the Finlayson Islands, in Wellington Bay, and to the east at Stromness Bay, Albert-Edward Bay, and Jenny Lind Island. These seasonal encampments have remained active over the years and are still utilized today, though to a lesser extent.

Except for a handful of explorers who visited the area over a period of nearly two centuries, the Eskimos of southeastern Victoria Island had no permanent contact with European-Americans until 1921, at which time the Hudson's Bay Company established a trading post in Cambridge Bay. This post closed down for a couple of years, but it has been in continuous operation since 1927. The Canalaska Trading Company established a rival trading post at Cambridge Bay in 1929. It operated until 1939, at which time they sold out to the Hudson's Bay Company. The R.C.M. Police have operated a detachment at Cambridge Bay since 1926, except for the winter 1937-38, when the R.C.M. Police vessel "St. Roch" took over as a "floating detachment". The Anglican Church started a mission at Cambridge Bay in the 1920's, and the Oblates of Mary Immaculate began a Catholic mission in the 1940's.

For twenty years, following the establishment of a permanent white community at Cambridge Bay, the village remained only a nucleus to which the Eskimos of surrounding encampments traded or gathered for festive occasions. Until construction of a long range navigation beacon, built in 1946-47 by the United States Army and Air Force in conjunction with the Canadian Army and Air Force, the permanent population of Cambridge Bay consisted of traders, missionaries, police, and the 3 or 4 Eskimo families employed by them. From time to time, the population included several old or disabled Eskimos no longer able to live self-sufficiently from the land.

Eskimos trading into Cambridge Bay between 1927 and 1947, continued to live off local resources. The major innovation in their seasonal patterns was dispersion along trap lines between November and April, which took them deep into the interior of Victoria Island and to the mainland by way of Kent Peninsula. In good fur years, returns were high. Eskimos in the area were able to obtain through trade most of the European-American goods they desired. The major setback of the period was final cessation of the mainland caribou migrations to Victoria Island by 1931. The resident population of caribou on Victoria Island was not sufficient to supply the needs of the Eskimos in the Cambridge Bay trading area. Nor were there sufficient numbers of caribou on the nearby mainland of the Kent Peninsula. The Cambridge Bay Eskimos came to depend upon a supply of caribou skins for clothing from the Eskimos of the Bathurst Inlet or Coppermine River areas. Arctic char and trout remained a staple of the area. Most of the river systems emanating from the south and east coasts of Victoria Island supplied enough fish in the autumn to enable the Eskimos to cache fish for winter use. Seals continued to be an important source of food, fuel, and clothing.

Rapid Transition to the Modern

Construction of the Long Range ("Loran") navigation beacon in 1946-47, marks the beginning of a rapid transition period at Cambridge Bay. About 20 Eskimos were employed during the construction of the beacon. The "old town" on the east side of the bay developed at this time, as the Eskimo employees built houses from scrap lumber left over from construction of facilities at the navigation beacon. For the first time, a permanent community of over 100 Eskimos, including families of the employed, lived a major part of the year at Cambridge Bay. The sudden development of wage labour, created by construction and later maintenance of the beacon camp, coincided with a depressed market for fox furs. Relatives of those employed consequently drifted into Cambridge Bay for extended visits. When construction of the beacon site was completed, the Cambridge Bay Eskimo population again declined, but never returned to the old skeleton trading community of three or four Eskimo families clustered around the two trading companies, the R.C.M. Police and the Missions. A few families remained at

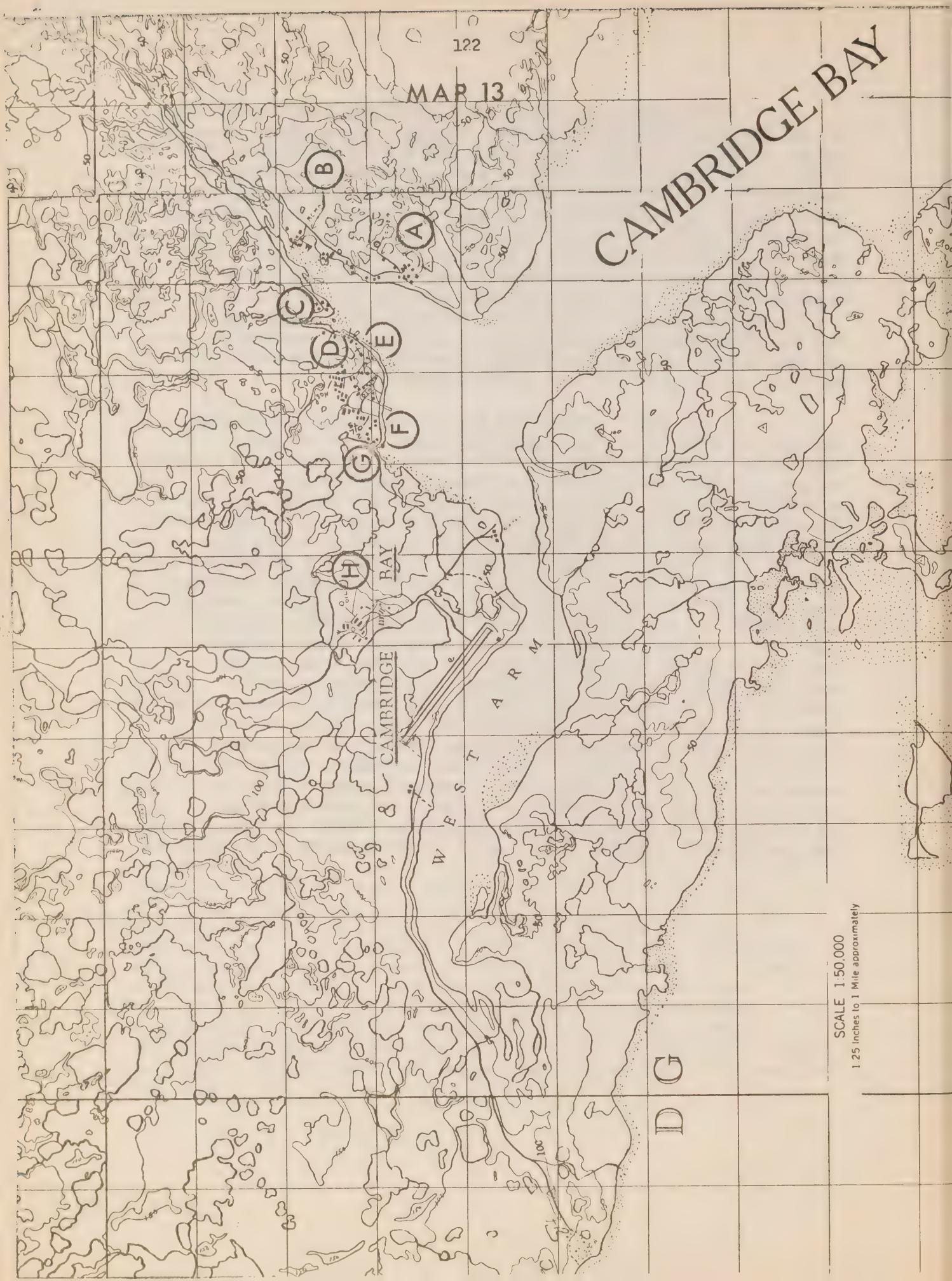
Cambridge Bay to work in maintenance jobs at the beacon site and to maintain a landing strip on the winter ice of the bay. The navigation and communication system, of which the Cambridge Bay Loran beacon formed the corner of a triangle, became outdated and was abandoned in 1951. The Department of Transport took over some of the buildings at the site for a weather station and radio communications. They employed two Eskimos on a year-round basis. The Royal Canadian Air Force set up an arctic survival school in the remaining buildings of the beacon site. Four Eskimos were employed as instructors in winter survival and maintenance work at the survival school. In 1957, the Royal Canadian Air Force moved the school from Cambridge Bay to Resolute on Cornwallis Island 500 miles to the northeast. By this time, new wage opportunities had come to Cambridge Bay.

Construction of the DEW Line

Construction of the DEW Line in the Coronation Gulf-Queen Maud Gulf area began in 1955. Cambridge Bay developed into a major transportation and supply center for all the Dew Line sites in the region. One of the main DEW Line stations was erected at the west arm of Cambridge Bay, about 5 miles from the village which was on the east arm of the bay. The Cambridge Bay site became sector headquarters for 12 sites located at 50 mile intervals, between King William Island and Bernard Harbour. At the peak of construction 200 Eskimos were employed in this sector. Cambridge Bay became at the same time the focus of immigration from Perry River, Ellice River, Bathurst Inlet, the south coast of Victoria Island, and from as far west as the Mackenzie River Delta. By the summer of 1956, the Eskimo population of Cambridge Bay had reached 114 persons in 26 families. Twenty two out of 32 men between the ages of 16 and 55 were working in wage employment. Although Cambridge Bay had rapidly changed into a community primarily engaged in a modern wage economy, Ferguson points out (1957, p.16) that during the transition period of construction days it was still necessary for all employees at Cambridge Bay to leave their jobs periodically to hunt for fresh meat. This transition period was greatly eased by the help of the Northern Construction Company, the group responsible for construction of the Cambridge Bay sector of the DEW Line. They were more than generous in providing scrap lumber for small houses during the initial immigration and build up of Cambridge Bay. Ferguson states (1957, p.43) that the construction company gave a number of services free of charge, such as providing scrap lumber and fuel oil and instruction in how to use scrap insulating paper and how to attach fuel oil regulators to oil drum stoves. He maintains that this company made the superior technology of the European available for the first time, "one aspect of European culture which the Eskimos did not get from their previous contacts".

The Department of Northern Affairs placed one of the first of the Northern Service Officers at Cambridge Bay in 1955, primarily to act as liaison between the Eskimos and DEW Line employers. In 1956, the Northern Service Officer became area administrator, responsible for the Eskimos scattered throughout the Cambridge Bay, Perry River, and Bathurst Inlet trading areas, as well as for those employed in the Cambridge Bay sector of the DEW Line. Other government departments also expanded their facilities to meet the needs of a growing community. The Department of Transport, in particular, enlarged its staff and facilities when the DEW Line transferred to it a 5000 ft. elevated all weather air field in 1961. Cambridge Bay had become an important transportation link between the eastern and western arctic and a north-south link between Winnipeg and such northern outposts as Resolute on Cornwallis Island.

By the 1960's, Cambridge Bay had radically altered its physical as well as its functional character. The original settlement developed around the R.C.M. Police detachment and missions on the east side of the bay. The Loran beacon site was also established on this side. Only the Hudson's Bay Company (and the Canalaska Trading Company until it sold out) built on the west side of the bay, about one mile south of the Greiner River (Map 13). The DEW Line site and runway were established about 4 miles west of the Hudson's Bay Company. The Department of Northern Affairs, Department of Transport, the missions and Northern Health Service all established or transferred their facilities to the west side also, on a terrace west and north of the Hudson's Bay Company. Most of the Eskimo population abandoned the "old town" on the east side of the bay (although seasonal visitors continue to occupy houses in the old town during the winter) and re-established their homes around the new complex of buildings on the west side. During the peak of construction, Eskimo shacks also mushroomed along the road toward the DEW Line site, but most of these have since been destroyed or relocated closer to the new town. The Eskimo population is presently distributed in groups according to the areas from which they had emmigrated. Hence, the community has developed as follows; from east to west, as shown on Map 13.



<u>Area</u>	<u>Designation</u>	<u>Groups occupying</u>
A	Old Town	Seasonal visitors, Cambridge Bay trading area camps.
B	---	R.C.M. Police Detachment
C	Jack's Point	Bathurst Inlet Eskimos
D	---	Perry Island Eskimos
E	---	Hudson's Bay Company
F	New Town	Post Office & Restaurant Glad Tidings Missionary Society Anglican Mission Dept. of Northern Affairs Northern Health Service Department of Transport Catholic Mission Cambridge Bay area Eskimos
G	---	Fred Ross & Associates Ltd. Ellice River Eskimos
H	---	DEW Line site and runway

Residents of the Area

Once the DEW Line became operational and construction of the major facilities of the new townsite at Cambridge Bay were completed, immigration came to a halt and both the white and Eskimo population have stabilized in the early 1960's.

Table 34

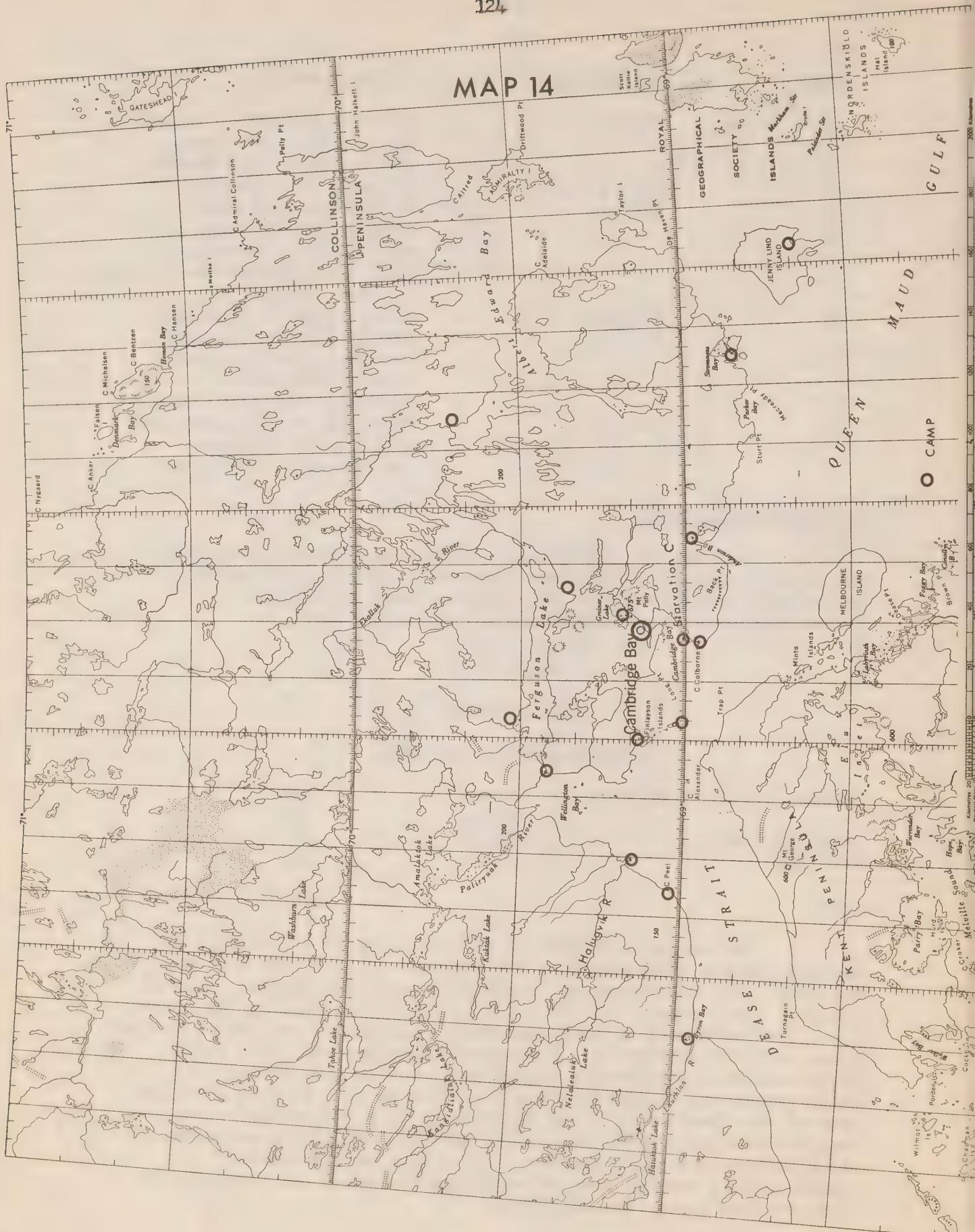
1963 Population

Cambridge Bay Trading Area

Village of Cambridge Bay	Eskimos	198
	Whites	74
Satellite Camps	Eskimos	67
DEW Line	Eskimos	<u>88</u>
Total		427

The white population of Cambridge Bay is attached to the various outside organizations, and consists of employees and their families. The Department of Transport imports the largest group of people. They account for 35 of the 74 white residents in Cambridge Bay. The Department of Northern Affairs represents the second largest group with 12 individuals. Employment opportunities for a white population at Cambridge Bay is presently static, but the overall white population varies slightly from year to year according to the size of the families of white employees. This population has a regular turnover. Only three white men had been in the community for a period of 4 years or more. All others in positions of responsibility had not been at Cambridge Bay for a full year at the time the area survey was conducted.

MAP 14



Eskimos who reside more or less permanently in the village of Cambridge Bay number 198 individuals, composed of 44 families or economic units. There are 13 families numbering 67 Eskimos, who spend the major part of the year at satellite camps. They periodically visit and trade at Cambridge Bay. Population of the satellite camps fluctuates according to the season, availability of resources, market value of resources, and the opportunity for wage employment in Cambridge Bay. The present day camp population of the Cambridge Bay trading area represents only 16% of the total population compared to 90% in the 1940's, prior to the changes started by construction of the Loran beacon. Summer distribution of the population at the satellite camps is plotted on map 2. In addition to the 13 families who presently make up persistent occupation of the satellite camps, most of the families in Cambridge Bay not permanently employed, occupy temporary camps, particularly during spring and autumn for harvesting of seals and char.

Table 35

Satellite Camps Cambridge Bay Trading Area

Location	Season	Population	Primary Resources
Albert-Edward Bay#	autumn-winter	(3)	T, F, Pb
Stromness Bay	year around	7(4)	S, F, Pb
Jenny Lind Island#	year around	3	S, F, Pb
Anderson Bay	summer & winter	5	C, T, S, F
Cape Colbourne	spring-summer	10	S, C
Flagstaff*	summer		S
Starvation Cove#	spring		S
Finlayson Islands	spring		S
Ferguson River#	year around	10(16)	C, T, S, F
Ferguson Lake	summer-autumn	18	T
Halugvik#	winter	(5)	F
Cape Peel#	winter	(7)	F
Byron Bay#	year around	14	C, T, S, F
Greiner Lake*	summer		T

#Camps with permanent wooden houses

*Temporary camps, population indeterminant

() Winter population only

T = trout, F = fox, Pb = polar bear, S = seal, C = char

See map 14 for place names.

Immigration into Cambridge Bay during the last half of the 1950's was on two levels, those coming from outside the trading area, and those leaving the satellite camps. Immigration from outside the area appears to have halted. In fact, a few families have returned to their old homes. Abandonment of the satellite camps continues. Moreover, Eskimos from the camps tend to make more frequent and longer visits into the village, particularly during the winter months.

Not all of the Eskimos employed on the DEW Line in the Coronation Gulf-Queen Maud Gulf region are counted in the Cambridge Bay trading area. Only those employees and their families who contribute all or most of their income to the Cambridge Bay economy are included. This group includes 18 of the 30 employees on the DEW Line in 1963. With their families, they total 88 individuals.

The outside labour force, management, and military personnel of the DEW Line are not counted in the population of the area. Although they do contribute to the income of the Hudson's Bay Company at Cambridge Bay, their population is both transient and removed from the community or camps of the area.

Housing and Fuel

The rapid growth of Cambridge Bay produced the expected housing problems. Adequate housing has not kept pace with immigration. As might be expected, families of Eskimos permanently employed occupy the finest housing. Housing for Eskimo employees on the DEW Line is excellent, but these units are too expensive to construct and to heat for the unemployed Eskimos in Cambridge Bay. During the winter, an average of 100 gallons of fuel oil is required per month to heat them adequately. Families using these houses rent them and the furniture from the Department of Northern Affairs at a monthly rate of \$82.

Most of the employed Eskimos in Cambridge Bay also rent their houses from the Department of Northern Affairs. In the new townsite on the west side of the bay, there are 6 houses of the 512 design, so named because they contain 512 square feet of floor space. These houses have two small bedrooms, a living room kitchen combined, a bathroom with chemical toilet, and a storm porch. They also require a minimum of 100 gallons of fuel oil per winter month to heat. One of the 512 houses is presently rented by the resident crew of Pacific Western Airlines. The Eskimo families renting the remaining 5 pay \$54 per month, which includes fuel and power. Three houses are of the "320" design; the number in this case refers to a model number and not the square footage. Only one is rented by an Eskimo family, also at \$54 per month.

Four other houses built by the Department of Northern Affairs are occupied by pensioners. One is the 16' x 16' rigid frame and the other 3 are poorly constructed box-like houses measuring 20' x 14'. Each pensioner in these houses is looked after by a family which occupies the same house. In return for looking after the pensioners (mostly blind Eskimos), these families are not required to pay any rent. The Department of Northern Affairs had two houses of the "370" design constructed during the summer of 1963, under the low-cost housing program.

Houses of those Eskimos not regularly employed tend to be of the scrap wood variety, insulated with tar paper, canvas, or cardboard. There are 30 such houses in Cambridge Bay. Of these,

only 6 are well constructed, adequately insulated, and spacious enough to accommodate their inhabitants without a danger to health. All of these houses now burn fuel oil for heat, 10 using cook stoves or commercial space heaters and 20 using home made drum stoves.

During DEW Line construction and the years immediately following, many families heated their homes with scrap lumber. Such fuel is extremely scarce at Cambridge Bay now, to the extent that it cannot be counted on for winter requirements.

Eskimo housing at Cambridge Bay has been described as "deplorable" and inadequate (Gajda, 1962, p.26), with particular reference to the 30 houses occupied by unemployed or casually employed Eskimos. These judgements are based primarily upon size, material, and appearance in contrast to the larger and more expensive houses of the white population and employed Eskimos. It is true that most of the 30 Eskimo houses are ugly tar paper covered shacks, but their adequacy should be based upon warmth, ventilation, and number of occupants during the winter months, rather than upon aesthetics. Wind chill during the winter at Cambridge Bay is among the most severe in the Canadian arctic. Nearly half of the 30 houses are difficult to heat adequately because they are in such a state of disrepair that the heat produced in them cannot be conserved. The remaining half are adequate as far as heat is concerned, according to their occupants. Twenty four of the houses are small one room shacks. In one sense, the smallness is an advantage during the winter. Blocks of snow and drifted snow, surrounding the shacks up to the eaves, helps to insulate them from the cold. Moreover, they can be adequately heated by approximately 50 gallons of fuel oil per month, one half the requirement of the larger government constructed houses described previously. The disadvantage of their smallness is that they are over-crowded, especially during the winter when general health is lower and contagious diseases easily spread. Over-crowding is not a summer problem because a number of families move into tents around the townsite (14 families during the summer of 1963) and visiting families from the satellite camps also occupy tents while in Cambridge Bay during the summer. In the winter, visiting families double up with relatives. Consequently, a number of shacks, containing less than 260 square feet of floor space, provide shelter for as many as 10 and 12 people in some periods of the winter. Problems of health and cleanliness would be largely solved if there were more houses at Cambridge Bay. The low-cost housing program must work on a priority basis for a vast territory, so that the demands of this single community cannot possibly be satisfied immediately. Future plans for houses at Cambridge Bay should take into consideration the ability of a family to heat its house at present income levels as well as spaciousness. Housing at satellite camps, where families are leading productive and self-sufficient lives should also be given equal priority with housing in Cambridge Bay itself. One positive factor about the lack of adequate housing in Cambridge Bay is that families presently in adequate houses at satellite camps are discouraged from moving into the village. The availability of cheap houses indiscriminantly constructed at

Cambridge Bay might well have the effect of inducing people, who are now successfully earning a livelihood from resource harvesting, to move into the community whether employment opportunities are available or not.

Eskimo Health

Northern Health Services of the Department of National Health and Welfare operate a nursing station with 2 nurses and accommodation for 8 patients. A Doctor's residence was completed in 1961, but the Department has not been able to staff it with a resident doctor. It is presently used for visiting professional staff.

The nursing station is occupied primarily with treatment of common ailments and minor emergencies. Common ailments are similar to other arctic communities, epidemics of measles, chicken pox, and flu, outbreaks of diarrhoea, gastric enteritis, oitis media in children, and general respiratory diseases. Pneumonia can be treated at Cambridge Bay, but active cases of tuberculosis are sent to the Charles Camsell hospital in Edmonton, Alberta for treatment. Tuberculosis is one of the major debilitating factors in the area. The supplementary census of 1961 revealed that 77 individuals, or 22% of the total Eskimo population in the Cambridge Bay trading area have case histories of T.B.

In addition to the care of Cambridge Bay Eskimos, the staff of the nursing station makes occasional visits to Bathurst Inlet and Perry River to check on epidemics, give inoculations, and treat emergencies. The staff has authority to use the Department of Northern Affairs charter plane on an emergency or incidental passenger basis only, however. No provision has been made for regular charter or split charter accommodation. Visits to Bathurst Inlet and Perry River are consequently irregular and infrequent.

The nursing staff also attempts to improve sanitation in and around the houses. To this end, an Eskimo has been trained and appointed on a regular salaried basis as Community Health Worker.

Education

During the 1930's, half a dozen Eskimos from the Cambridge Bay Trading area received a few years of education at Shingle Point and Aklavik in the Mackenzie Delta region. Formal education in the Cambridge Bay area did not begin until 1956, at which time the wife of the Hudson's Bay Company store manager ran a school in a temporary building for primary grades. A Federal school was completed in November 1957, only to burn down 10 days after completion. A new school was constructed in 1958, and a wing was added in the summer of 1963. Present facilities include 3 classrooms, a work-shop which can double as a classroom, and a kitchen. An 8 bed hostel was opened in 1963 for children of parents at satellite camps in the area. Enrolment at the Federal Day School in Cambridge Bay for 1962-63 and 1963-64, breaks down as follows:

Table 36

Pupils in School - Cambridge Bay Federal Day School

<u>Year</u>	<u>Age Group</u>		<u>6-16</u>	<u>17-24</u>	<u>Total</u>
	<u>Eskimos</u>	<u>Whites</u>		<u>Eskimos</u>	
1962-63	31	6		2	39
1963-64	71	8		2	81

School enrolment in one year has doubled. Grades extend only to the 5th grade. Forty five of the 81 students enrolled for 1963-64 are in the first grade. In addition to the children in the first 5 grades at Cambridge Bay, between 30 and 35 children from the Cambridge Bay area have attended schools at Inuvik or Yellowknife in these two academic years. Cambridge Bay is one of the main collecting centers for air-lifting students to Inuvik. A DC-4 aircraft picks up students at Cambridge who have congregated from all points and camps between Spence Bay and Richardson Island. For 10 months of the year, a growing number of children have lived and studied in a physical, intellectual, and cultural environment vastly different from their home environment. Although these children may well become useful citizens in a temperate climate world as southern urban civilization knows it, their chances of returning to their own environment and to better their arctic environment diminishes under present educational policies. One of the greatest obstacles to economic development of Eskimo communities in the region is the lack of an educational program integrated with economic and cultural realities in such an environment.

An educational program that has helped Eskimos to better themselves in their own environment was the technical training in heavy equipment operation and maintenance which a number of the men received at Leduc, Alberta, during the construction phase of the DEW Line. Nineteen men from the Cambridge Bay area received such training, 5 of whom qualified as mechanics. Opportunities to make use of such skills in the Canadian arctic are limited, however, especially in any one area. Twelve of the 19 men trained from the Cambridge Bay area, continue to earn a livelihood from their training, while the others have been forced to seek employment in other categories or to return to harvesting of local resources for their cash income.

Churches

Eighty per cent of the Cambridge Bay population are members of the Anglican Church. Except for a period in the 1940's, this church has operated in the area since the 1920's. The Roman Catholic church, run by the Oblates of Mary Immaculate, numbers only 4 or 5 families in its congregation. A third church, the youngest of the three churches at Cambridge Bay, is a Pentecostal organization known as the "Glad Tidings Missionary Society". Their congregation fluctuates between 10 and 15% of the Cambridge Bay population.

Local Organizations

The Ekaloktotiak Eskimo Co-operative Ltd., founded in 1961, is of growing economic significance to the community. It is solely a fishing co-operative, concerned with the harvest and sale of arctic char and trout. The economics and functions of the co-operative are discussed later in the section dealing with resource utilization.

A village council, only 2 years old, is still in its infancy and has not yet found its voice. Meetings have been infrequent and dominated by the white representatives on the council, not because they wish to dominate, but because the Cambridge Bay Eskimos have difficulty in articulating their ideas in front of white people. A tradition of shyness and fear is fading slowly, despite whatever may be felt privately.

Cambridge Bay now has a curling club whose membership is made up of mixed teams of Eskimos and whites representing the various government and commercial enterprises in the community.

Settlement Facilities

Water Supply & Sewage Disposal

Cambridge Bay has a good water supply. During the summer, water is taken from the Greiner River, which flows into the bay about one mile northeast of the Hudson's Bay Company premises. During the winter, water is taken from either a lake 7000 ft. north of the settlement or from a lake close to the DEW Line site, where a bubbler keeps it open all winter. The Department of Northern Affairs distributes the water twice a week by truck.

Sanitary conditions in Cambridge Bay are better than the average Eskimo community. Refuse is collected in empty 45 gallon steel drums, of which there are many thousands in dumps or scattered along shorelines. Except for the Department of Transport, whose facilities contain a flush toilet system, most houses have chemical toilets with disposable plastic bags. Garbage filled drums are disposed of in a lagoon or on the sea ice.

A number of houses occupied by white residents contain laundry and shower facilities. There is at Cambridge Bay a community bath house and laundry similar in all respects to the one at Coppermine.

Power and Fuel

The Department of Northern Affairs owns 2 fuel oil tanks, installed in 1961, with a capacity of 315,000 gallons each. Bulk storage of fuel oil in these tanks supplies the requirements for the whole community. The Cambridge Bay DEW Line station, which functions separately from the community in all respects, receives its own supply of fuel. Cost per gallon of fuel oil at Cambridge Bay is the standard 79¢ as established under the equalization policy described

in a previous section.

Electricity is supplied to the village by means of two 250 kw generator and one 150 kw generator, owned and operated by the Department of Transport. All houses receive electricity except those at Jack's Point and those in the old town on the east side of the bay. Cost per kwh is 10 cents.

Accommodation, Restaurant and Stores

Cambridge Bay boasts a hotel known as the Arctic Islands Lodge, operated by Fred Ross & Associates Ltd. Facilities include three bunk houses with a capacity of about 30 people, shower and toilet facilities, and a dining room. Room and board are \$12 per day. The lodge caters to tourists and seasonal government workers who overflow local government facilities. Ross & Associates also operate a vehicle renting service and act as agents for Pacific Western Airlines. In 1964 this company will expand its operations to include an outboard motor repair and sales service, to be housed in a new building and staffed by a trained Eskimo mechanic.

Other living accommodations for transients are provided by the Department of Northern Affairs. A quonset building served as a temporary transient quarters while a new 8 bed hostel was constructed during the summer of 1963. These accommodations are primarily for Eskimos passing through the area from or to the hospital or schools. The office building of the area administrator includes accommodation for 6 people, used primarily by visiting staff of the Department of Northern Affairs.

A small coffee shop was opened for the first time in the summer of 1963, by members of the Glad Tidings Missionary Society. It remained open throughout the summer months, closing at the end of September. All members of the community, white and Eskimo, including visitors from the DEW Line station patronized the restaurant. It also functioned as a bakery. Its bread was particularly in demand. Sales reached a peak of 50 loaves per day (at 50¢ per loaf). Exact figures were not available, but it is estimated that the restaurant and bakery did a gross business of between \$1500 and \$2000 in the 4 month period that it operated.

In recent years the Hudson's Bay Company trading post has expanded to the size of a supermarket. The role of this store in the economy of Cambridge Bay is discussed later.

Communication, Air Transport, and Mail Service

In addition to maintenance of the all weather airstrip previously mentioned, the Department of Transport maintains a 24 hour weather station and radio communications. Their base of operations is adjacent to the airstrip and the DEW Line station.

The residences are in a compound on the western edge of the new townsite. They include facilities for six families. Single employees occupy a building which contains a social room where movies, dances, and parties can be held. It is the main entertainment outlet for the white residents and some of the Eskimo population.

Pacific Western Airlines bases an Otter at Cambridge Bay, under charter to the Department of Northern Affairs, although other groups or individuals can charter when the aircraft is not busy with Northern Affairs work. This Otter serves Spence Bay, Gjoa Haven, Perry Island, and Bathurst Inlet as a mail carrier on a non scheduled basis. The pilot and engineer, with their families, rent houses belonging to the Department of Northern Affairs.

Law Enforcement

The R.C.M. Police detachment consists of a married corporal, two constables, and an Eskimo special constable who acts as interpreter and guide. The detachment is responsible for all the Eskimos included in the Cambridge Bay detachment area, for all residents of the community, and for all personnel stationed in the Cambridge Bay sector of the Dew Line.

Other Facilities

The Department of Northern Affairs owns a brine freezer and holding locker with a capacity of a little more than 20,000 lbs. It has been used for the past three years to store the char and trout of the local fishing co-operative, but its primary purpose is to help the Eskimo community to store perishable country foods.

Other facilities at Cambridge Bay include garages and repair shops for the maintenance of heavy equipment and local vehicles. The Department of Transport and the Department of Northern Affairs each have these facilities, and each has an Eskimo mechanic in their employ. There are a number of abandoned Department of Public Works buildings, which are being used for storage. A noticeable lack in facilities is a community hall. Meetings are presently held in the school house.

Chapter XITHE ECONOMY OF THE CAMBRIDGE BAY TRADING AREA

Growth of Cambridge Bay during the 1950's has been accompanied by a change in the economic structure of the area. Migration into Cambridge Bay has been the result primarily of the DEW Line, expanding activities of government agencies, and the subsequent increase in community amenities. The population of the Cambridge Bay area derives its livelihood today from a combination of wage employment, resource harvesting, and social legislation. It is necessary to compare present and potential sources of income with present and future needs in order to determine the present health of the economy and the ability of the economy to expand with a growing population.

Sources of Cash Income

Table 37 illustrates the economy's dependence on permanent and casual employment.

Table 37Sources of Cash IncomeCambridge Bay 1962-63

		<u>No. Employed</u>	
Permanent Employment:			
DEW Line	18	\$55,000	
Dept. Northern Affairs	7	30,000	
Dept. of Transport	2	7,200	
Northern Health Services	1	3,600	
Hudson's Bay Company	1	2,400	
R.C.M. Police	1	3,000	
Ross & Associates Ltd.	1	3,000	
Casual Employment:			
Dept. Northern Affairs		12,000	
Hudson's Bay Company		4,175	
Ross & Associates Ltd.		3,000	
Local Resources:			17,650
Social Legislation:			16,800
Relief:			<u>12,500</u>
			<u>\$170,325</u>

Distribution of the various sources of income in the Cambridge Bay area can be related to individuals and families as follows:

Ave. income per capita	\$ 482
Ave. earned income per capita	\$ 399
Ave. earned income per capita exclusive of DEW Line	\$ 362
Ave. income per family	\$2,271
Ave. net earned income per DEW Line employee	\$3,055
Ave. earned income permanently employed exclusive of DEW Line	\$3,785
Ave. earned income of casually employed and unemployed families	\$ 837
Ave. relief per unemployed or casually employed family	\$ 284

Permanent Employment

In 1962-63, members of 31 families were permanently employed. Although representing only 40% of the population, these families earned 60% of the entire income for the area. Wage labour has become the dominant factor in the Cambridge Bay economy.

DEW Line Employment

Eskimo employment for the DEW Line within the entire survey region came to 23 men, who, with their families, totalled 117 people. Five of these families trade into either Spence Bay or to Coppermine, and do not contribute to the Cambridge Bay economy. The other 18 families (88 people) do trade and visit at Cambridge Bay. Outside of an undetermined but reportedly small expenditure for mail orders through DEW Line flights, their income is circulated at Cambridge Bay. In 1962-63, approximately \$55,000, representing net income after deductions for rent (\$82/month for house and furniture), mail orders, and incidental expenses at the sites, was spent in Cambridge Bay, a contribution of 32% to the total income. This points out the importance of DEW Line employment to the Cambridge Bay economy. Only 24% of the labour force was involved, however. During the summer of 1963, the small intermediate stations of the DEW Line were closed down and the budget of the company operating the line was drastically cut. Six of these stations were in the Cambridge Bay sector. Only one Eskimo was employed at each of these sites. They were transferred to the larger sites in the sector. With the reduction in operations, it was announced that Eskimos holding jobs would not be laid off, but that no new employees would be accepted. A number of Eskimos who had left the line suddenly found themselves unable to get their old jobs back. In the immediate future, Cambridge Bay cannot count on DEW Line employment to prime the economy any further. It may be that on a long term basis (providing the DEW Line does not entirely shut down) Eskimos of the area will have absorbed enough education to take over technical and administrative positions now occupied by imported workers.

Other permanent wage employment in the area is restricted to the village of Cambridge Bay, and is distributed between the agencies

enumerated in table 37. In late 1963, the Northern Health Service added one man to its payroll and the Department of Northern Affairs added two Eskimo employees to its staff, bringing the total of permanently employed in Cambridge Bay to 16 persons for 1964. New opportunities for permanent employment in Cambridge Bay are remote as long as the community remains static. If plans for construction of a 200 bed hostel and 13 room school are carried out beginning in 1964, however, there is no question that wage opportunities will increase. Nevertheless, 60% of the present labour force must rely on casual employment or local resources for a cash income. Barring large scale movement away from the area, this percentage will probably increase; 62% of the Cambridge Bay population is under the age of 25.

Casual employment

Wages from casual employment come to only 11% of the total cash economy. This sum varies from year to year according to the number of summer projects underway. Table 37 includes under casual labour, wages paid out to assistant carpenters who worked on the construction of a school addition, transient quarters, and low-cost houses in the summer of 1963. Casual employment will probably more than double during construction of the projected school and hostel. At best, however, such work is seasonal and spread over many workers, so that any one family does not normally earn enough for its annual needs. Twenty to 25 men are available for casual employment at Cambridge Bay.

Renewable Resources

About 25 families in the Cambridge Bay area depend upon the harvest of local resources as their primary source of cash income. Country produce contributed 10% of the total cash income in the area. Income varies according to fluctuations in the harvest of particular species of wildlife and in the market value of their products. Of all income sources in the Cambridge Bay area, expanded utilization of local resources offers the greatest potential for building a cash economy.

Arctic fox

Until developments of the 1950's, the Cambridge Bay area derived almost all of its income from white fox furs. Yields have been consistently high in the area to make it one of the better trapping regions for white fox in the Canadian arctic. In the early 1930's, when market prices were high and competition among traders keen, annual yields reached as high as 7000 pelts. Even in the past 5 years, when many of the Cambridge Bay men were not trapping full time, yields have been relatively high.

Table 38

Fur Take Cambridge Bay

Year	polar bear	Fox blue	Fox cross	Fox red	Fox white	Fox silver	weasel	wolf
1954-55	26	40	1	3	3277	2	6	3
1955-56	9	24	1	4	4825	-	13	-
1956-57	9	20	3	26	974	-	8	1
1957-58	4	14	12	16	2100	-	2	-
1958-59	19	8	-	4	1111	-	4	2
1959-60	8	1	1	-	447	-	-	1
1960-61	26	17	-	1	4164	-	9	-
1961-62	21	11	5	6	1729	-	3	1
1962-63	8	2	-	2	747	-	-	-

Source: Fur Export Returns, Territorial Division,
Department of Northern Affairs & National Resources

The number of trappers in the Cambridge Bay area varies considerably from year to year. In the 1961-62 fur year, 79 individuals traded foxes at Cambridge Bay, in 1962-63, a bad fox year, less than 40. Most of the Cambridge Bay trappers have become only casual trappers, however. In the 1961-62 fur season, which represented an average year in availability of foxes, only 10 trappers secured 40 foxes or more, and only one trapper took more than 100 foxes. These 10 trappers averaged \$526 through an income range of \$350 to \$1100. Ferguson (1957) provides statistics worked out by L.A. Learmonth, a former Hudson's Bay Company factor for many years in the region, which show average incomes of casual, average, and skilled trappers in the area for a normal fox year, on the basis of \$10 per pelt:

Casual Trapper 30 pelts	Average Trapper 95 pelts	Skilled Trapper 200 pelts
\$300	\$950	\$2000

Most trappers in the Cambridge Bay area maintain trap lines which take no more than one day to cover. Many of these short lines emanated from Cambridge Bay itself. This meant that the immediate area was over-trapped. Successful trappers, on the other hand, maintained lines which took up to 5 days to cover. These lines extended deep into the interior of Victoria Island, to as far as Tahoe Lake and to the mainland south of Kent Peninsula. Six of the trappers interviewed claimed that they trapped only on a casual basis because caribou skins have become too scarce to provide adequate clothing and that winter clothing available at the Hudson's Bay Company store is not sufficient to withstand long trips during the winter months in the Cambridge Bay area. It is true that windchill (Table 3) makes this area one of the colder trapping areas in the Canadian arctic.

There are other reasons for the lack of sustained trap lines. Sociological and psychological factors of community living at Cambridge Bay inhibit incentive for trapping. The community offers warmth, entertainment, wage employment, and social assistance. In this community, prestige has shifted from the hunter to the

permanent wage earner, (albeit the work may be menial) who rents a large comfortable home and can afford the best outboard motors and other material goods.

Although the fur market is not as high as it has been in the past, it has maintained a price during the past 5 years sufficient to provide a steady trapper at least enough to meet his needs during the trapping season. Except for those years when the fox cycle hits the bottom, steady trappers in the Cambridge Bay trading area can be expected to average 100 pelts, an approximate value of \$1000 at present market conditions. It is significant that steady trappers who spend the bulk of the year at satellite camps do not earn as much as wage earners, but require less than the wage earner because his essentials can be obtained outside the village economy, where wage earners are dependent on the purchase of most of their needs. The five most successful trappers in the Cambridge Bay trading area, who reside at camps well removed from the community, have never required relief.

Seals

Up until the summer of 1963, seals had not played a significant role in the cash economy of Cambridge Bay. Seals have, on the other hand, always been important as a source of food, clothing, and fuel. The ringed seal (*Phoca hispida*) is the common seal of the area. The harbour seal (*Phoca vitulina*) is a rare visitor to the region and the bearded seal (*Erignathus barbatus*) is found in fairly limited numbers in the region of Richardson Island and east of Sturt Point. It is rarely seen along the south coast of Victoria Island between these two points.

Before a trapping economy was introduced into the region, the Eskimos along the south coast of Victoria Island moved out onto the sea ice during the winter and lived in snow house seal hunting villages as did the rest of the Copper Eskimos. Present day seal hunting is limited primarily to spring and summer (from March to October). The area which appears to be the richest for seals is that which lies along a line between Sturt Point, Jenny Lind Island, and Hat Island. The area survey was unable to cover this region, but local residents and pilots flying for the DEW Line verify that this region displays the greatest concentration of seals during the spring and early summer following break up of the sea ice. The concentration of basking seals on the ice just prior to break up is especially high between Sturt Point and Jenny Lind Island, where the ice tends to develop large cracks. During the summer of 1963, a minimum of 150 seals were seen basking on the ice in a square mile area with a triangle of 20 ft. wide cracks, about 5 miles off Sturt Point. Pilots supplying the DEW Line sites in this area during the basking period report that such groupings are common. During the same period, the Area Survey saw about 20 seals basking on the ice between Cape Colburne and Kent Peninsula. Local hunters reported that 4 or 5 seals per square mile were seen on the ice at the peak of the basking season between Cape Colburne and the Finlayson Islands. Eskimo hunters

and D.E.W. Line pilots confirm that seals are scarce on the ice between the Finlayson Islands and Richardson Island. During open water, the same distribution of seals seems to prevail.

Long before the ice moves out of Queen Maud Gulf and Dease Strait, it breaks off from the shore. Those bays which have rivers draining into them open up by the first week in July. Seals appear to prefer swimming among the loose pans of ice outside the bays, rather than penetrating into the bays. The majority of seals seen in the immediate Cambridge Bay area, were outside the bay among the ice pans, in concentrations as large as 100 in late July. Seals remain abundant in the Cambridge Bay area throughout the month of August.

For purposes of conservation and economy, there is a great need to introduce more efficient techniques for harvesting seals. Hunting of basking seals would be greatly aided by demonstrated proof that the stalking blind, used by eastern Eskimos, would increase the harvest at this time. The technique is not unknown to the Copper Eskimos. For some reason it has never caught on. The introduction of seal nets into the area for use in the cracks of spring ice and during open water should increase the seal harvest substantially. Now that the market has been established, with little likelihood of falling back to pre 1963 levels, the Cambridge Bay Eskimos should be receptive to any innovations for securing seals. At present, all seals taken during the period of open water are shot. As previously mentioned, at least half the number of seals shot during the summer are lost by sinking in deep water where hooks fail to retrieve them. Shooting seals from boats in open water during August and September is limited to those days when the wind is less than 20 mph. The frequency of winds over 20 mph is high. Rough seas make it practically impossible to see or shoot seals from small boats or canoes. Seal nets set in protected coves could be tended in winds which would prohibit hunting from boats. The main hazard in the maintenance of seal nets is the presence of loose ice. A close watch must be kept on the nets when ice is present.

The summer of 1963 marked the first time that seal skins were traded in large numbers at the Hudson's Bay Company store. Because the Cambridge Bay Eskimos were inexperienced in preparation of the skins for sale, they only averaged about \$14 per skin at first, one half the value of the top price for well prepared skins. By the end of the summer, the quality of skins improved considerably.

There is no question that the seal take in the Cambridge Bay area can be increased to inject a substantial amount of cash into the local economy. Providing the seal fishery is spread out to as far east as Jenny Lind Island, with air support if necessary, the area should be able to produce annually a minimum of 1000 saleable seal skins.

Many of the skins traded into Cambridge Bay during the summer of 1963, came from hunters who were permanently employed. They hunted from fast boats in the evenings and on weekends. One of these hunters secured 25 seals. It may well be, that the area could yield up to 2000 seals in a season with efficient equipment. Whether the seal population of the area could stand such a harvest can only be determined by a proper inventory and biological studies now lacking in the region. Because seal skins promise a substantial increase to the economy of the whole survey region, and a crucial one to the future of such areas as Bathurst Inlet and Perry Island, a survey of the seal population should take top priority.

Although seal meat does not appear to be a preferred human food at Cambridge Bay, any increase in the harvest would greatly aid the chronic scarcity of dog food and provide fuel for drum stoves, particularly for those at outlying camps.

Arctic Char and Lake Trout.

The Arctic Unit of the Fisheries Research Board estimates that the water systems of southern Victoria Island (the Cambridge Bay trading area) have a potential annual yield of 200,000 lbs of char and trout without damaging capital stock. The abundance of these fish and their traditional utilization is borne out by Eskimo place names of the area and by the richness of archaeological material at many fishing places. Char and trout, raw, frozen, dried, or cooked, continues to be one of the staple foods. Since 1961, char and trout have also contributed to the economy of the area. The Ekaloktotiak Eskimo Co-operative was founded at that time for the export and sale of frozen char and local sale of dried and frozen trout. The fishing co-operative operates a 3 phase fishery, a dried trout fishery on Ferguson Lake, a winter frozen trout fishery on Ferguson Lake, and a fresh frozen summer char fishery on Ferguson River. Total return of the 3 phases amounts to approximately \$12,000 at present levels of production. Net return from the operation plus wages to the fishermen contributes about \$5000 to the Cambridge Bay economy at present. Logistics of the fishery, operating expenses and income are reported in detail annually and are on file at the Department of Northern Affairs in Ottawa. Rather than repeat these reports, the fishery is examined herein in terms of potential for expansion and the role it can play in the economy of Cambridge Bay.

The summer char fishery operated the first summer on the Greiner River. In 1962, operations were shifted to the Ferguson River, because the commercial fishery competed with local needs of the Cambridge Bay Eskimos on the Greiner River, a small system which has already been seriously depleted of char and trout. In 1963, the system was fished primarily by sports fishermen. The Hudson's Bay Company sponsored a summer long fishing contest, in which the whole community participated. Anglers trooped daily to the river, but there is no doubt that many people caught less fish than they would have, had they placed nets in the river.

The Ferguson River, site of the present co-operative fishery, collects the waters of a large network of inter-connecting lakes. It was fished heavily during the summer of 1963. Over 62,000 lbs of char were netted. The co-operative took 30,588 lbs. of this total in 19 days of fishing. Most of the char were taken outside the mouth of the river. In addition to the co-operative harvest, Eskimo families fishing for their own needs caught an estimated 27,600 lbs. and the R.C.M. Police took 4000 lbs. of char.

An estimated 7000 lbs. of trout and char were netted on Ferguson Lake itself and dried for local sale at Cambridge Bay. Total catch for the whole system was well below maximum permitted by the Department of Fisheries. The amount of trout taken is supposed to balance with the char take, however. If the trout outnumber the char too greatly, they will deplete the stock of char by preying on the young. A check of 2500 lbs of the dried fish flown to Cambridge Bay, revealed a ratio of approximately 1 char for every 3 trout. This imbalance can be made up by a larger winter trout fishery on Ferguson Lake. The co-operative has operated this winter fishery only for local sale in Cambridge Bay. The lakes of southeastern Victoria Island, however, show excellent potential, in terms of volume, for a commercial trout fishery for export. The main detriment to such a fishery is that markets are well established in the south, with competitive prices well below that of arctic char which enjoys a gourmet market. In order for a commercial trout fishery to be successful at such a remote area, volume must be greater (brokers suggest a minimum of 100,000 lbs. in steady shipments), and both transportation and operating expenses must be reduced below those of the char fishery. For a winter fishery, there is, of course, no large investment required for a freezer, but shelters and fish cleaning sheds must be heated. The winter trout fishery could freight trout to the airstrip at Cambridge Bay by tractor train or dog sled for 2¢ or 3¢ per lb, from whence it could take advantage of backhaul rates (6¢ per lb.) on D.E.W. Line DC-4 flights to Winnipeg. As a rough estimate, a 100,000 lbs winter trout fishery should be able to operate at a cost of 25¢ per lb. Production costs and marketing should be investigated before initiation of any such a fishery. Remote arctic industries in direct competition with well established southern producers must be prepared to offer a product different to its southern competitors in order to secure profitable markets.

Should the co-operative fishery at Wellington Bay not be able to harvest enough char in the short season to fill the 40,000 lb. capacity holding freezer to be placed there, other systems draining into Wellington Bay might fill the balance. The co-operative could well fall short of 40,000 lbs, if the Ferguson River is utilized by more non co-operative fishermen than did in the 1963 season. There are two major systems besides the Ferguson River which flow into Wellington Bay. The largest, the Washburn system flowing into the northwestern corner of the bay, for some reason does not show evidence of sea run char on the river. A paucity of old or recent

camping sites, local tradition, and unsuccessful netting by Fisheries Research Board biologists, local Eskimos, the R.C.M. Police, and this survey confirm the lack of sea-run char on the Washburn River. There is a short waterfall, more of a rapids, about 8 miles from the mouth of the river, which may account for the lack of sea run char.

The second system flows into Wellington Bay just north of Cape Peel. It is known locally as Halugvik. There is a fair run of large char that commences a few days in advance of the run on the Ferguson River. Halugvik is not large and becomes too shallow for boat transportation or netting one quarter of a mile beyond its mouth. There are actually two channels at the mouth of the river. Halugvik does contain a series of pools and shows evidence of having been a good river for spearing fish behind weirs. Present day fishing with gill nets is done mostly in salt water along the south shore toward Cape Peel. The channel into the bay from the mouth is narrow and shallow. It might be feasible, however, to utilize Halugvik as an alternative or auxiliary site for the Ferguson River fishery. Once the freezer is placed on the latter, fish could be ferried across Wellington Bay from Halugvik in 2 to 4 hours depending on the roughness of the water. Information gathered by the area survey suggests that Halugvik supports a sea run of sufficient magnitude to provide 8000 to 10,000 lbs. of arctic char to supplement the Ferguson River catch.

The Lauchlan River, emptying into Byron Bay about 35 miles west of Cape Peel, is backed up by a larger lake system than is Halugvik. They are similar, however, in that the rivers are made up of a series of pools and shallow rapids. Although a great deal more water flows from the Lauchlan River, navigation by boat is impractical less than a mile beyond its mouth. During the summer of 1963, two families made their homes in Byron Bay at the mouth of the Lauchlan River. The Area Survey coincided its visit with the first day their nets had been set in the river and bay. In the next 5 days (30 August to 3 September), 4500 to 5000 lbs of char were taken in 7 nets tended twice a day. The char were not as large as those taken on the Ferguson River or Halugvik, but 4" mesh or smaller made up all but one of the nets. In the past, 4 and 5 families have resided in Byron Bay, each harvesting enough char to meet the needs of dogs and humans throughout the winter. Present residents report that excellent fishing can also be found on the lakes inland during the winter. Hatuktok (Map 13) is considered excellent for lake trout. Some char are taken along with the trout by trappers tending their lines. It may be that this system could support a small commercial fishery, but with present transport facilities and costs, it is too far removed from the Ferguson River to tie in practically with the co-operative fishery there.

To the east of Cambridge Bay, Anderson Bay, Stromness Bay, and Albert-Edward Bay provide char and trout for small encampments of one or two families. Informants suggest that the lakes northwest of

Albert-Edward Bay are excellent for early winter trout fishing through the ice. The Eskimo families who presently utilize this eastern section of the Cambridge Bay area are considered the most successful food gatherers and the most independent of the whole Cambridge Bay population. The Area Survey was unable to include this section in their field investigations.

Caribou

Changes in the caribou migrations have been discussed in other sections of this report. According to Macpherson (1960) the resident population of caribou on Victoria Island is low enough so that hunting should be discouraged. Cambridge Bay Eskimos shoot the resident caribou of Victoria Island in the winter, should they encounter them while tending traps. Most of the resident caribou are in the northern portions of the island, beyond the trapping range of Cambridge Bay Eskimos. In recent winters, Peary caribou have been seen and shot by trappers to the north of Albert-Edward Bay and in the water shed region of the Washburn River and Halugvik. In the summer of 1963, a small herd of Peary caribou was seen near Mt. Lady Pelly, 15 miles from Cambridge Bay. Hunting journeys for the express purpose of taking caribou center on the Kent Peninsula of the mainland. In recent years, the R.C.M. Police annual game reports reveal that small summer concentrations of barren ground caribou reach the Kent Peninsula consistently. Hunters from Cambridge Bay reach the mainland by outboard powered canoes, jolly boats, or speed boats. The shortest distance across is about 15 miles, by way of Cape Colburne. All caribou hunts in the summer of 1963 took place in early August. Ice blocked the way in July, and by late August the caribou had begun their southward migrations. An estimated 15 caribou were taken by Cambridge Bay Eskimos during the 1963 summer hunts. Caribou meat and skins have truly become a luxury for the area.

Polar Bear

The eastern coast of Victoria Island, uninhabited except for a few families in the southeastern corner, combines suitable ice conditions, sufficient food, and refuge from human predators to encourage a high density of polar bears compared to the western portions of the survey area. That polar bears are abundant on the east coast is evident by the annual kill shown in table 38. Although the southeastern corner of Victoria Island has excellent tourist potential based on polar bear hunting, regulations do not permit tourists to hunt polar bears in Canada. More information is required on the size of the population and factors governing stability of the population.

Migratory Birds

The whole of the Cambridge Bay area abounds in migratory birds during the summer. Geese and ducks of a variety of species, terns, loons, swans, and cranes nest in or pass through areas occupied

by the Cambridge Bay Eskimos. Unascertained numbers are harvested by the Eskimos, when the opportunity offers itself, especially in June when other fresh food is scarce or hard to come by.

Other Resources

Ptarmigan and snowy owls vary in abundance from year to year. Both species are hunted for food by Cambridge Bay Eskimos.

Tom cod are taken year around in Cambridge Bay by hook and line. They are mostly fed to dogs. Although caught year around, tom cod fishing is sporadic. It is unlikely that these fish provide 10% of the local dog food needs.

Summary of Resource Utilization

Renewable resources of the Cambridge Bay area have provided only 10 to 15% of the total annual cash income in the past few years. Even if the market value of seal skin drops to as low as \$15, with minor improvements in techniques, guidance, and encouragement, income from local resources could be doubled from the present level of between \$15,000 and \$20,000 to at least \$40,000. Such an increase would be a significant spur to the economy and would enable those families who desire to live away from the community to do so with some assurance of economic security.

Table 39

Potential Income from Local Resources

Cambridge Bay Trading Area

Co-operative fisheries	65,000 lbs. char & trout	\$10,000
Fox trapping	1200 foxes @ \$10	12,000
Seal fishery	1500 seal skins @ \$12	18,000

It should be pointed out that renewable resources continue to be of primary dietary importance for the area. Families at the outlying camps in particular rely upon the local harvest of food for the bulk of their diet. That is one reason their cash needs are lower than those of wage earners in Cambridge Bay. Even among wage earners in the community, however, local food is still necessary. It has been the only source of fresh meat for Eskimos employed or unemployed. The Hudson's Bay Company plans to air freight fresh frozen meats into Cambridge Bay, but costs will run over \$1.00 per lb, which is beyond the reach of most of the Eskimo community. Although a categorical break down of foods available at the Hudson's Bay Company store was not available, it was clear that Cambridge Bay Eskimos would suffer from dietary deficiencies were they to rely upon canned meats available at the store. In June and July of 1963, the survey visited nearly all of the houses or tents occupied by Eskimo families. In all but 5 of the homes visited, local food was in evidence, either on the

stove, on the table, or in the storage shed. Char and trout were the predominant foods seen, but water fowl and seal meat provided food in 16 households. Cambridge Bay Eskimos, employed and unemployed, continue to be at least part-time hunters and fishermen.



"512" Housing in Cambridge Bay

Chapter XIITHE CONTWOYTO LAKE AREABackground

Contwoyto Lake is called Tahiruak, "Big Lake" by the Copper Eskimos. A narrow lake 75 miles long, it is in the heart of the barrens about 250 miles northeast of Yellowknife and 200 miles south of Coronation Gulf. The lake is situated at the height of land on a plateau underlain by the crystalline rocks of the Canadian Shield. Contwoyto Lake is 1480' above sea level and drains both north and south. Relief is generally less than 200 feet throughout the area, except among the Willingham and Peacock Hills to the north of Contwoyto Lake, where elevations reach 2500 feet. Drainage is disorganized, and many interconnecting lakes abound in the region. Vegetation is limited chiefly to a sparse lichen cover, small patches of sedge grass, and widely scattered pockets of dwarf willow and ground birch. A common feature of the region is the widespread occurrence of eskers.

Throughout the present century, caribou have consistently migrated through the Contwoyto Lake area in herds numbering tens of thousands. In a period marked by continued and serious decrease in the total caribou population of Canada and by major shifts in migration patterns, Eskimos inhabiting the area have been able to rely on the caribou crossing places of Contwoyto Lake and adjacent lakes as a dependable source of meat and skins year after year. There are few records of inland occupation and caribou utilization for the period following contact with Europeans. However, it appears that the introduction of fire-arms led to increased year-round occupation, primarily because the rifle enabled the Eskimos to shoot the caribou which remained in the barrens during the winter. Development of a fur economy probably induced people to remain inland through the winter also. Eskimos have lived more or less continuously in the Contwoyto Lake area since at least the late 1920's. Although all the Eskimos in the area today make seasonal visits to either Coppermine or Bathurst Inlet, they consider the Contwoyto Lake area as their true home. Most of today's residents have lived practically their whole lives inland.

In recent years, these inland dwellers can be recognized as two groups, whose main encampments are separated by about 60 miles, one just northwest of Contwoyto Lake and the other on the southeast side of Contwoyto Lake. As a general rule, but by no means a rigid one, the Eskimos of the northwest encampments visit and occasionally make their homes at Coppermine, while those of the southeast encampments are oriented in the same way to Bathurst Inlet. Although these Eskimos are referred to in this report as the Contwoyto Lake Eskimos, it should be understood that their activities and encampments are not solely confined to the immediate area of Contwoyto Lake. They are familiar with and have utilized

at one time or another the territory bounded by Beechey Lake on the east, Aylmer Lake on the south, Great Bear Lake on the west, and the arctic coast on the north.

During the mid 1950's, Pacific Western Airlines established a navigation beacon on an island in the middle of Contwoyto Lake. This site was also staffed as a weather station and equipped with radio communication which maintained schedules with Yellowknife and could reach Coppermine or Bathurst Inlet when needed.¹ The Contwoyto Lake Eskimos made frequent visits to the beacon site, particularly during mid-winter when food or fuel became scarce. The Department of Northern Affairs, through its regional office at Yellowknife, supplied the beacon staff with emergency rations for the Eskimos. The beacon staff itself often provided material assistance by issuing fuel to the Eskimos, on occasion, in return for casual or token labour around the site. Supplies ordered by Eskimos were also flown in on chartered flights to the beacon site free of charge on a space available basis, thus eliminating the high cost of freight. For the first time, the movements and activities of this inland group were under observation and easily communicated to Yellowknife should an emergency arise.

In the 1950's, the population of both groups fluctuated between 30 and 50 people; they maintained anywhere from 70 to 100 dogs. Both people and dogs subsisted on caribou meat. The mid and late 1950's saw growing concern, research, and programs centered on altering the alarming annual decrement in the caribou herds. By this time, a fair idea of caribou utilization in the Contwoyto Lake area had been accumulated. Several factors contributed to a high take of caribou and to a disproportionate kill of females and fawns. The Contwoyto Lake Eskimos have supplied as much as 95 per cent of the clothing skins for the Eskimos on the arctic coast between Coppermine and Bathurst² Inlet, and for those at Read Island and Holman on Victoria Island.

All families used caribou skin tents for a good part of the year; each tent requires 20 skins. Dogs were also fed almost exclusively on caribou. There were indications, however, that the kill exceeded needs; that every year there was a varying amount of waste, reaching as high as 15 or 20 per cent of the kill. The primary cause of waste was due to the fact that large numbers of caribou pass through the area starting early in July. At this time, they are easy to kill in the crossings, and the temptation to take caribou while they are on hand and certain is too great. If a large kill takes place at this time, much of the meat and skins rot beyond use before the Eskimos can process them. Crippling losses represent another form of waste, brought about by the use of small calibre rifles, particularly the .22.

1 Bathurst Inlet Beacon site abandoned August 1962.

2 R.C.M.P. Report, Coppermine Detachment, 7 June 1961, Northern Administration Branch File 1000/145, Vol 7.

As part of an overall program to conserve caribou and to improve the welfare of the Contwoyto Lake Eskimos, the Game Management Service of the Department of Northern Affairs undertook for the first time to create a domestic fishery in the barrens. In 1958, a program of netting was implemented on Contwoyto Lake, and the following winter instruction was given in the use of ice jiggers, a hooked device which enables one to stretch a net under the ice. Four dories, prefabricated at the vocational school in Yellowknife, arrived at Contwoyto Lake in 1959, to aid in the fishery. Contwoyto Lake did not prove to be a good fish lake, a fact verified by investigations of the Fisheries Research Board and the testimony of the Eskimos. The following year, netting activities were transferred to Pellatt Lake, just south of Contwoyto Lake. This site was chosen because fishing was considered more productive and because the campsite sat on a knoll commanding a long view, which allowed the Eskimos to spot approaching caribou. The Pellatt game camp, as it came to be known, consisted only of those Eskimos from the southeast Contwoyto Lake encampment. The families remaining at the northwest end of Contwoyto Lake, did not become involved with the fishing program.

The Eskimos in the Contwoyto Lake area prefer the uncertainties of life on the land to tea and bannock in the communities. They are, on the whole, industrious and determined to be independent. The ideas of "government men" had to be well reasoned to avoid resistance and to gain acceptance among this inland group. Fortunately, those who undertook to encourage fishing and to show the need for caribou conservation were able men experienced as trappers in the territories. They won the confidence of the Eskimos with a minimum of friction. For some, the need for caribou conservation was not apparent, even with reasoned argument. A number of these Eskimos, mostly from the northwest encampments, protested restrictions of any sort. They moved to the coast and have remained there.

Facilities

There are 6 rigid-frame houses at the Pellatt game camp, which root their occupants more to the one locality than the Eskimos in the tents and snowhouses of the northwest encampments. This camp is the first of its kind in the barrens. Three houses were built in the summer of 1961 and the remainder in the summer of 1962. One house is the residence of the Game Management Officer, the other 5 of Eskimo families. Two of the houses are paid for by their occupants and the other three are partially paid for. The houses measure 16' x 16' x 7'8" and are fastened to three 6' x 6' x 16' joists. Double walls of 3/4" plywood contain an insulating layer of rockwool. A ventilation shaft is fitted into each roof. The interiors contain linoleum covered floors, Eskimo built bed platforms, home-made drum stoves and a variety of shelves and cabinets for storage. They are all clean and neat.

Eskimos at the Pellatt game camp agree that the rigid-frame houses require less fuel to produce and conserve heat than did the skin tents or snowhouses. The Game Management Officer has a "Silent Sue" oil stove which required only 1 gallon of fuel per day to heat his house sufficiently in the coldest weather. An example of the efficiency of these houses is the fact that a Coleman lantern can heat such a house to a temperature of +60° F. with the outside temperature as low as +20° F. Some Eskimos maintained that a Coleman stove adequately heated the houses (i.e. enabling one to shed outer garments) except during the coldest periods (e.g. -20° F. or colder with high winds).

Other facilities at the Pellatt game camp include the Game Management Officer's warehouse and 4 outhouses. Immediate needs of the camp are facilities for preserving meat and material for storm porches around the entrance to the houses. A simple and practical solution to the problem of meat preservation is the simple frost cellar excavated in the permafrost. Little cost or material would be involved in the construction of such a cellar. The Game Management Officer has in fact worked out plans for the size and type needed, with a list of materials required for construction. Storm porches would also be relatively inexpensive. They form one of the most functional and essential parts of a dwelling occupied by an Eskimo hunting family. They keep out drifting snow, reduce heat loss upon entering the house, and provide storage space for hunting gear, meat, and miscellaneous equipment which must be protected from weather and dogs.

The northwest encampments do not have any facilities corresponding to the Pellatt game camp. Individual families are scattered and their camps not permanent. They remain on their own and have only infrequent contact with the Game Management Officer resident at the Pellatt game camp. Their summer homes consist of canvas tents, which are replaced in winter by hemisphere shaped caribou skin tents or snowhouses.

Administration

The Eskimos of the Pellatt game camp and Contwoyto Lake are now included in the Yellowknife Administration Area. Before 1962, this group was the responsibility of the Department of Northern Affairs, the R.C.M.P. Police, and National Health and Welfare staffs at Coppermine. Radio communication from the beacon site on Contwoyto Lake and from the Pellatt game camp keeps the responsible agencies in Yellowknife informed of conditions and needs in the area. Most of the actual administration is handled by the resident Game Management Officer, however.

Transportation

A winter road extends from Yellowknife to the Tundra Mine

on MacKay Lake, about midway between Contwoyto Lake and Yellowknife; beyond this point, snow vehicles have only occasionally made their way into the Contwoyto area. The Eskimos travel to and from the arctic coast by dog team, of course, but they can only bring a very limited supply of goods into the country with them by this means. The bulk of supplies now arrives by chartered aircraft from Yellowknife. Air distance from Yellowknife to the Pellatt game camp is 232 miles, and to the beacon site on Contwoyto Lake about 250 miles. An Otter charter to Contwoyto Lake costs \$525 (at \$1.05/mile), while a Cesna 185 is \$275 (at 55 cents/mile). Freight rates are 40 cents/lb. Planes into the area land on the lakes, using floats in the summer and skis in the winter.

Present Economy

Working capital of the Eskimos at the Pellatt game camp and the encampments to the northwest of Contwoyto Lake is composed of the usual essentials required of a hunting and trapping economy. All hunters possess at least one heavy calibre rifle (.222 or larger) and a .22 calibre rifle. The number of traps (No. 1 1/2) ranges between 100 and 250 per trapper. At Pellatt Lake, each man has the use of 2 fishing nets (4 1/2" mesh, 100' long) supplied by the Department of Northern Affairs. Every family has an assortment of stoves; a drum stove for the house, kerosene and gasoline primus stoves, and usually a two burner Coleman stove. Kerosene primuses are more common than the gasoline burners. Each family owns a large canvas duck tent (10 oz.) for summer use (usually 8' x 10' or 10' x 12'), and a few have a second smaller tent for one night camps. Other family equipment includes snowknives, cooking utensils, sleeping bags, and sewing machines. The main non-essential equipment consists of battery powered radios, phonographs, and tape recorders.

Dog teams in the Contwoyto Lake area are, on the average, larger than most found on the arctic coast. A team of about 10 dogs is common, while a few number as many as 14 dogs. A combination of long journeys with heavy loads necessitating large sleds accounts for the larger dog teams. Sleds returning inland from spring journeys to the coastal trading centers carry loads up to 1800 lbs., not including the weight of passengers. The largest sled at the Pellatt game camp measured 18' x 3' x 1 1/2'.

The seasonal cycle of economic activity is governed by local resources and resource utilization. Life and welfare in the area is dictated by a limited variety of resources and cash opportunities.

Fuel

Dwarf willow and ground birch make up the principle fuel resource in the area. They are found in widely scattered patches. Before alternate fuels became available, the location of encampments was determined to a large extent by the proximity of brushwood. The permanency of the Pellatt game camp is a disadvantage in that heavy

utilization can easily exhaust the reserve of fuel supplies in the immediate area of the camp. Willow (attaining a maximum diameter of 3 inches) and birch are taken from 2 patches about 10 miles to the southwest and southeast of the Pellatt game camp. Both patches are only about 180 acres in area and are the only adequate source of local fuel within 30 miles of the camp. Between January and June, it is difficult to cut brushwood because of hard-drifted snow. That utilized for fuel must be stock-piled during the snow-free period. In the past, seal oil stored in skin pokes was carried inland as an alternate fuel, and was used in the traditional seal oil stone lamp. In recent years, kerosene, gasoline, and fuel oil has been brought into the Contwoyto Lake area on charter flights. These alternate fuels are expensive, however, and few if any Eskimos have the means to rely on them alone under present economic conditions.

Caribou

The principal resource and staff of life for Eskimos in the area is caribou. Under present conditions, the Eskimos would have to abandon the Contwoyto Lake area should the caribou fail. Their importance is measured not as a source of cash, but as the staple item of food. Caribou provide at least 70 per cent of the protein and caloric requirements of the group throughout the period they are inland. Moreover, caribou supply winter clothing and the food requirements of dogs, exclusively for those at the northwest encampments and over half the needs of those at the Pellatt game camp, depending on success of the year's fishing. Caribou skin clothing for winter will remain an essential until adequate synthetic materials become attainable in a price range appropriate to Eskimo purchasing power.

As long as caribou remains a staple item in the area, any assessment of the subsistence economy and potential for human occupation must be consistent with conservation. The Canadian Wildlife Service calculates the present total mainland caribou population at close to 200,000 animals. In 1959-60, decrement from human causes alone was estimated at 34,800, which, added to natural mortality, left a deficit of 5,300 caribou. The following year, the deficit was estimated at 4,200.¹ Although the Contwoyto Lake area has experienced reliable caribou passages, game cropping in the area cannot be considered in isolation from overall population fluctuations. If, as present evidence suggests, the mainland caribou are continuing to decline from year to year, then a further influx of Eskimos into the area for purposes of caribou utilization should be discouraged, while the present policy of promoting conservation practices and developing domestic fisheries should be extended to those Eskimos at the northwest Contwoyto Lake encampments.

¹ Council of the Northwest Territories, Sessional Paper No. 10, 1962.

The main harvest of caribou in the Contwoyto Lake area takes place between late July and mid-September. Probably 60 to 70 per cent of the total annual kill is taken in this period. The caribou are most abundant, the skins prime for clothing, and the normally lean meat rich in fat. During July and August, meat not immediately consumed is usually dried, while autumn kills are cached in frozen ground under rocks, for consumption the following spring. During the winter months, small scattered bands of caribou wander the barrens and are taken by the Eskimos tending their trap lines. There have been winters when the area was devoid of caribou. If sufficient meat has not been stored away from the summer-autumn hunt, starvation becomes a real threat at such times.

Female caribou pass through the area in April and May, on their way to the fawning grounds in the Bathurst Inlet region. They are followed in late May and June by the bulls. Many of the Eskimos are absent from the area, visiting the coast during the spring passage of females. They usually return inland just before the snow melts off the land. The spring movement of caribou is not as large or concentrated in the Contwoyto Lake area as is the autumn one. The absence of caribou is not so serious for the Eskimos at this time, because they can also harvest migrating birds, ptarmigan, and fish hooked through holes in the lake ice.

Caribou provided a small cash income when the skins were sold at the coast (prime skins brought \$3.00). Under present conservation efforts, the only potential for cash is those parts of the caribou not utilized for subsistence requirements. The Game Management Officer at Pellatt Lake is encouraging the manufacture of wedge caps from caribou leg skins not used for boots. Samples were sent to Yellowknife during the summer of 1963, and it appears that the market there can absorb all that the Pellatt Lake group can supply. This handicraft is under investigation by the Industrial Division of the Department of Northern Affairs. The development of a caribou hoof handicraft might also be worthwhile promoting. The Alaska Native Craft Association has developed a costume jewellery craft from caribou hooves and a similar undertaking might prove feasible in the Contwoyto Lake area.

Soapstone

A few of the Eskimos in the area are producing soapstone carvings. There are apparently a few small deposits of soapstone near Contwoyto Lake. Most of the stone being worked, however, has been brought in by the Eskimos returning by sled from the coast. The Game Management Officer is also encouraging increased production of soapstone carvings at the Pellatt game camp.

Fish

The Contwoyto Lake area has been placed outside of the

commercial fishing zone by the Department of Fisheries. The numerous lakes do contain a variety of species, however, sufficient to meet domestic requirements and to ease pressure on the caribou, provided education and technical aid can motivate and equip the Eskimos to do so. The Pellatt Lake group have fished under supervision since 1958. Major aspects of the fishery are summarized as follows:

1. Contwoyto Lake did not prove to be a good fish lake. The predominant species taken is lake trout, followed by whitefish. Char are found only at the northern end of the lake, near the Burnside River.
2. The Pellatt game camp was chosen because fishing was considered more productive than Contwoyto Lake. The bulk of the catch is lake trout, while whitefish and northern pike are caught in lesser amounts. Fishing operations did not really contribute to a significant reduction in the caribou kill until 1962, when netting operations before freeze-up yielded between 5,000 lbs. and 6,000 lbs. of fish. Few fish were taken after freeze-up. Ice freezes to the bottom in shallow places, while in deeper water the ice can exceed 6' and has been known to attain a thickness of 8'. The Pellatt Lake Eskimos tend nets under the ice until December, by which time many of the nets freeze to the ice and can no longer be hauled out. Nets have been successfully used throughout the winter in other areas (e.g. Great Slave Lake), but constant tending is required. One of the main detriments to winter fishing in the Contwoyto Lake area is fox trapping, which must take priority because it is a primary cash source in the area. Nevertheless, pre-freeze-up fishing can probably yield greater returns with more diligent efforts, providing the Eskimos are not diverted by caribou hunting or casual employment with prospectors in the area. The creation of a fishery among traditional caribou hunters is as much of a cultural problem as it is a technical one.

Fish are also taken during the winter and spring by hook and line through holes chopped in the ice. Mara Lake has been especially productive by this method of fishing, but yields are nevertheless lower than netting.

The value of a domestic fishery to the cause of caribou conservation can be seen in a calculation of minimum caribou requirements at the Pellatt game camp. There are presently 6 families at the camp, totalling 21 people, 14 of whom are adults and the remainder of pre-school age. There is a total of approximately 60 dogs. Eskimos, depending primarily on the lean meat of caribou, require a large amount to meet caloric needs. An adult easily consumes at least 4 lbs. of meat per day, and a family of 4, 10 lbs. of meat per day. A barren ground caribou yields between 75 and 100 lbs. of edible food for humans. It can be seen then that a family requires

3 or 4 caribou per month. The Pellatt game camp Eskimos would therefore require a minimum of 216 caribou for a year on the basis of food requirements alone.

A working dog requires approximately the same amount of nutrition as an adult person. Because the dogs are not working in summer and, by Eskimo custom, are kept in a general state of starvation at that time, an average consumption of 2 lbs. of food represents a conservative estimate of daily consumption. The 60 dogs of the Pellatt game camp would therefore require 43,800 lbs. for a year. The edible portion of a caribou is roughly 50 lbs. greater for dogs. Hence, the 216 caribou needed for human food would supply 10,800 lbs. of dog food, leaving 33,000 lbs. or 220 additional caribou required for dogs. Lake trout and whitefish contain approximately twice the caloric value of caribou meat.¹ Assuming that fish are fed green, whole, and raw to the dogs, a fishery of 16,500 lbs. would replace the additional harvest of 220 caribou required solely for dogs. The above calculations do not take into account such factors as waste, caribou needed for skins, or the equivalent of dried meat to fresh, but they can usefully serve as a rough index within 20 per cent of the fishery required for dog food.

Furs

Fur-bearing animals trapped in the Contowyto Lake area are all of the long-haired variety. White fox are the most abundant and important economically, but coloured fox (blue, silver, black, red, and cross) and wolverine are also taken. In peak years of the fox cycle, the region is considered a rich trapping area, although the northern sector is not nearly so productive as the southern sector in the vicinity of Aylmer Lake. White trappers who have been in the area since the 1930's, take individually as many as 800 animals in good years. At the bottom of the cycle, the region can be as devoid of furs as any other. The winter of 1962-63, was one of the worst seasons ever for foxes in this region. An old-time trapper at Aylmer Lake managed to trap only 8 foxes, using over 400 traps.² The Pellatt Lake and Contwoyto Lake Eskimos took a total of 42 foxes. In an average fox year, individual Eskimo trappers earn on the average about \$500. Eskimos exported 451 furs from the area in 1961-62; two trappers earned over \$1000. The major problem of the region is a lack of economic security for those years when the fox are scarce. At the top of the fox cycle, a good trapper could earn money in excess of his immediate needs, enough to stock-pile goods or cash for a bad year. This requires an inclination to save and foreknowledge of fox fluctuations in the region. Saving is a concept so difficult to impress on the older generation, that it is perhaps not really a solution to the problem of a fox failure. An essential need is

¹ Source: Table of Food Values Recommended for Use in Canada, Nutrition Division, Department of National Health and Welfare, Ottawa, 1951 (2nd. Ed.)

² Personal Communication - George Magrum.

alternative sources of cash to meet at least the minimum subsistence requirements of the Contwoyto Lake area Eskimos.

Mineral Resources

Recommendations aimed at improving the Eskimo economy in the Contwoyto Lake area also hinge on potential mineral development. The whole area is now undergoing intensive exploration, brought on by the discovery of gold between Itchen Lake and the northwest end of Contwoyto Lake. During the summer of 1963, some 300 people carried out exploratory work ranging from Itchen Lake to Beechey Lake and Coronation Gulf to Aylmer Lake. Published information reveals that certain deposits will yield .75 oz. per ton of ore. The Canadian Nickel Company, which made the original find on the northwest end of Contwoyto Lake in 1960, and other syndicates plan to extend assay and exploratory work for the summer of 1964. The cost of establishing transportation routes and of maintaining mining facilities in the Contwoyto Lake area, compared to the present market value of gold, is so high, however, that there appears to be little likelihood that development will take place for a number of years. Such development could, of course, bring profound changes to the Eskimos of the area, as well as to those at Coronation Gulf. Until development appears imminent, however, the main consideration must focus on use of the renewable resources. Nevertheless, mineral exploration has contributed substantially to the Eskimo economy in the past two years in the form of casual wage employment at the prospecting camps. In the summer of 1963, especially, practically all the Eskimo men found employment at a prospecting camp. A few have been retained for the winter as caretakers of abandoned camps, while many others have been promised work for the summer of 1964. In fact, some of the Eskimos proved such able assistants to prospectors, that their services have been specifically requested for future work through the Regional Administrator at Yellowknife.

An even more significant consequence of mineral exploration in the Contwoyto Lake area is the interest developed by many of the Eskimos themselves for prospecting. During the winter of 1961-62, four Eskimos, under the guidance of the Game Management Officer at Pellatt Lake and one of the staff at the beacon site, staked 90 claims adjacent to the claims of four syndicates off the northwest corner of Contwoyto Lake. Financing of the claims was shared by the four Eskimos and four white men. The property staked became known as the Eskimo Syndicate. In 1962, Giant Gold Mines of Yellowknife Ltd., took up a \$50,000 option on the Eskimo Syndicate claims. The first payment of \$5,000 was shared out in 1962, but the option was dropped following assay work during the summer of 1963. The Syndicate represents the first time, however, that Eskimos have held and benefited from mineral claims. Several Eskimos have continued to prospect independently or in partnership with white prospectors. These men might be considered for more formal training in mineral identification at Yellowknife, with the view toward future mineral exploration in the barren-lands.

In analyzing the present economy, income and expenditures can be usefully compared as an index of self-sufficiency, general welfare and a standard of living. Self-sufficiency can be judged by the degree to which the Eskimos meet their material requirements through their own efforts and the degree to which they depend on government or outside aid. Welfare can be judged by health conditions and morale. The standard of living as we use the term is judged in comparison to a standard for all of Canada. While morale or general happiness is perhaps the most difficult to assess, arriving at a comparative index for a standard of living is relatively easy, but is also a misleading basis on which to predicate policies toward improving the condition of Eskimos. Examination of socio-economic conditions among the Eskimos in the Contwoyto Lake area is treated with these factors in mind.

Population Size, Distribution, and Movement

Not counting children who spend the majority of the year at the Inuvik schools, the Eskimo population in the Contwoyto Lake area at the beginning of June, 1963, consisted of 42 people. Nineteen were at the Pellatt game camp, two at Mara Lake (but belonging to the Pellatt Lake group) and 21 scattered about on the northwest side of Contwoyto Lake. One family of four, which normally resides at the Pellatt game camp, was stranded on the coast, but will probably return early in the winter when travel conditions permit. The population at the Pellatt game camp will probably remain fairly stable because of the houses, but the northwest Contwoyto Lake population will tend to fluctuate more readily with changes in game conditions and attractions on the coast. There is no question that the houses, Game Management Officer, and radio communication at Pellatt Lake offer more security should game conditions become uncertain.

Even though there are houses at Pellatt Lake, the residents are on the move much of the year, particularly the hunters and trappers. As an example, 1963 saw the Pellatt Lake group scattered all summer at the prospecting camps after the return from spring journeys to the coast. During the winter, trappers maintained trap lines that usually took 1 to 3 days to tend, normally with weekly trips at the height of the season. The trap lines varied between 15 and 50 miles in length. Late winter fishing took the Eskimos as far away as Mara Lake.

The Eskimo population in the Contwoyto Lake area is both small and mobile. The number of people will most likely remain between 40 and 60, unless unusually depressed conditions on the coast combine with such new incentives in the hinterland as wage employment with mining companies and the promise of permanent houses.

Income and Expenditures

Rather than present the actual income of a particular year,

it will be more realistic to show a "theoretical" income for an average year; that is, to show what income can be reasonably anticipated for the Contwoyto Lake area in a normal fur year with the addition of cash from casual labour and handicraft opportunities which exist at the present time. Comparing such an income to cash requirements for essentials will show more accurately how stable the economy is. The Contwoyto Lake area represents a "closed system" in that it is isolated from the many spending outlets of community living. Expenditures reflect more clearly essential needs, while purchase of non-essentials, in the absence of community amenities, is restricted and fairly predictable.

What are the basic essentials? The average family in the Contwoyto Lake area consists of four people; two adults and two pre-school children. The yearly minimal cash requirement for essentials can be roughly calculated for the average family as shown in Table 40.

Table 40

Minimum Cash Requirement Per Family - Contwoyto Lake Area

Food	\$ 500
Clothing	100
Fuel	150
Tobacco	100
Ammunition	100
Renewal of Equipment	<u>150</u>
 Total	\$1,100

The calculations are intended only as an index of basic needs, below which health and welfare would be in jeopardy without assistance. Estimates were arrived at by several methods. Food costs were based on a tabulation of monthly requirements for staple items which were actually observed to be in use in the area. The resultant total was checked with Welfare Procedures Manual prepared after extensive research by the Welfare Division of the Department of Northern Affairs, and proved to be within \$40 of the minimum provided for a family entitled to full social assistance payments, taking into account a reduction in costs for reliance upon country foods.

The estimate of clothing needs also assumes that winter clothing comes primarily from country produce; every person in the Contwoyto Lake area wears caribou skin clothing in the winter. More ammunition is required than the average in communities, as would be expected for a group primarily dependent on hunting. On the other hand, requirements for imported fuels are much lower, the result of a combination of factors. The difficulty and high cost of freighting fuel into the area is reflected in discriminant use of fuel, while partial dependence on brushwood and willingness to tolerate lower temperatures in the hunting camps also lowers the amount of fuel

consumption. Finally, the effects of communal sharing should be mentioned. The titoritse is a strong traditional custom of social and practical consequence among the Eskimos in the Contwoyto Lake area. Three or four times a day the call goes out from one house or tent, and all gather to partake in food and tea. All households supply themselves with extra cups, plates, and a huge meat pot for the titoritse. In this manner, the fuel required for cooking meals is utilized at maximum efficiency, representing a substantial reduction in the amount that would be required were all households to have stoves going full blast for all meals.

Remembering that minimal requirements can be expected to be low for a group reliant by preference on a hunting economy, \$1,100 is not an unreasonable minimum by which the Contwoyto Lake Eskimos can maintain themselves relative to their own standards of comfort. They have, in fact, maintained themselves on less.

How these requirements compare to income potential in an average year is revealed in Table 41. Under average conditions, income meets requirements and allows a small surplus for non-essentials, but each income category must be examined to show how stable the economy really is. Significantly, the two major sources of income are the least certain for any projection into the future. Casual labour with the exploration companies, a very recent cash source in the area, promises a good source of income only so long as exploration continues. This may be one year or ten. Regardless, it cannot be counted on in determining government policies for improvement or development of a native economy. Long range planning of the fur industry is equally hazardous. Bad years are calamitous financially without alternative income. Moreover, the market is unpredictable and contingent on many outside and uncontrollable factors.

Table 41

Potential Income Per Family - Contwoyto Lake Area

Furs	\$ 500
Casual Labour	600
Family Allowance	145
Handicrafts	<u>55</u>
Total	\$1,300

At present, the economy is precarious and marginal. In recent years, welfare assistance in the form of food, and the gratis shipment of goods into the area by Pacific Western Airlines has made the difference between a self-contained economy and a sub-marginal, partially supported one.

Summary

What of the future? The question that must be asked, is

whether a population can maintain itself in the barrenlands on a hunting, trapping, and food gathering economy. To what extent can the Pellatt game camp serve as a model for occupation and resource utilization in other areas of the barrenlands? Before answers can be found, the following factors must be carefully weighed:

1. Until the mainland herds cease to decrease and more knowledge is accumulated on the ecological conditions governing their composition, immigration into the barrens for purposes of caribou utilization should be discouraged and conservation efforts continued.
2. Income from trapping varies with fox cycles. Unpredictable decreases in the market value of furs must also be considered.
3. While a domestic fishery can be intensified to reduce the harvest of caribou, there is little potential for a commercial fishery in the Contwoyto Lake area at the present time.
4. Administration and supply of the Contwoyto Lake area (or other inland camps) from regional centers is costly under present transportation and communication facilities.
5. Development of handicrafts is limited without importation of material and staff to instruct in the crafts. It must also be recognized that the very nature of the present economy in the Contwoyto Lake area and the raison d'être for occupation is to hunt and trap, which represents not only a means of subsistence, but a way of life. As such, handicrafts, developed on a large scale, must be relegated to those not otherwise occupied, namely the infirm and the women.
6. In comparison to the settlements, or Canada as a whole, it may be fairly stated that the standard of living in the Contwoyto Lake area is indeed low. Nevertheless, health and morale are high. All the Eskimos in the Contwoyto Lake area are there by choice and strongly affirm that they consider their present welfare and happiness superior to those in the settlements to the north. On the whole, these are older people. Their school age children, being educated at Yellowknife or Inuvik, will have neither the motivation nor training to return inland to an economy based on hunting and trapping, even if the standard of living of such an economy were increased.
7. It may well be that a hunting and trapping way of life could never co-exist with a high standard of living in our terms. White trappers have made large fortunes, but while actually living in the country, their mode of life differed little from Eskimos and Indians, in that they subsisted on the same necessities. Those people in the Contwoyto Lake area represent a dying segment of the Eskimo population, a segment willing to accept the standard

of living such an economy imposes, in order to be independent in the only manner they know how. They consider it a good life. Whether a younger generation follows them depends on the objectives of modern education, a subject beyond the scope of this report.

Conclusions

The above factors indicate that policies aimed at improving the hunting and trapping economy of the Contwoyto Lake area are necessarily short term ones. Nevertheless, the Pellatt game camp has proved a successful experiment, producing many positive results. That its success can in large part be attributed to the experience, leadership, and initiative of the resident Game Management Officer should not be overlooked. Major achievements include:

1. Good houses, well suited to the environment and within financial means of the Eskimos.
2. A substantial reduction in the caribou harvest and a more discriminant harvest.
3. The beginnings of a small handicraft industry.
4. The development of a growing domestic fishery.
5. Eskimo participation in mineral exploration as casual labourers and as prospectors.
6. Assurance of help in an emergency, through radio communications.



Rigid Frame House at the Pellat Game Camp.



Caribou Meat being dried at the Pellat Game Camp.

Chapter XIIICONCLUSIONS AND RECOMMENDATIONS

The major problems facing the region in the 1960's are those that beset Arctic Canada as a whole. Many of these problems have been pointed up in the preceding chapters. The dilemma has been succinctly summed up by Brack (1963) and is quoted, in part, as follows:

- "1. In the last ten years the population distribution has changed from dispersal in small camps to concentration in settlements.
- 2. Concentration in settlements has led to mal-distribution of population in relation to resources.
- 3. The renewable resources of the region are capable of contributing much more than they do to the subsistence and cash income of the people.
- 4. The main weaknesses associated with resource exploitation are poor human organization, lack of technical knowledge, and lack of capital.
- 5. A characteristic of the Eskimo economy over the last ten years has been increasing dependence on wage work and social payments as sources of income.
- 6. The present wage work structure is a weakness in that few individuals are engaged in steady wage work, and very few have skilled jobs, or jobs requiring a relatively high degree of literacy."

There is no easy solution to these problems. The shift to the settlements, caused in part by the security that health and welfare services offer, is irreversible and consistent with the aims of social and economic progress. The importance of education, health and housing to the rate of progress has long been recognized by the government and need not be repeated here.

This report has shown that the problems of the communities discussed are broadly the same, the difference is only in degree. Since there is a shortage of funds and trained staff to carry out all the projects indicated a regional approach to a program of economic development suggests itself.

Economic development goes hand in hand with community development. To further both, local leaders might be given short "workshop" courses in a regional centre such as Cambridge Bay not only in practical demonstrations of fox and seal trapping, firearms and outboard motor maintenance, but also education in the

advantages of better housing, sanitation, diet and water supply. These courses would involve the Education, Engineering, Welfare, and Industrial Divisions of the Northern Administration Branch.

Although in time education will prepare the Eskimos for jobs now held by better qualified southerners in their country, the present outlook for expansion in wage employment is not good. With the closing of the intermediate DAW Line stations economic activity in the region has declined.

The Copper Eskimos will continue to depend for some time on the natural resources they know so well. Most of the recommendations below are made in the belief that with capital, and organization backed by technical knowledge, greater wealth can be won from the land and sea. These recommendations, therefore, are designed to increase production, improve subsistence techniques, or to decrease expenditures. Those recommendations that apply to all areas of the region are discussed first, followed by recommendations for specific locations.

Regional Recommendations

The success of projects based away from settlements will hinge on the support they receive in the way of supervision and transportation. It is therefore important that Area Administrators be encouraged to continue at least monthly patrols throughout their areas, and that whenever possible, they spend more time at the smaller settlements such as Bathurst Inlet and Perry Island.

The shortage of seaworthy boats between Coppermine and Cambridge Bay is chronic. A peterhead type boat under the control of Area Administrators would facilitate the moving of people and supplies in connection with marine resource harvesting activities throughout the region.

Tourism

The progressive opening up of the Northwest Territories through better and cheaper transportation can be expected to bring more tourists into the region over the years to come. In view of this one or two young men from each area should be sent south now for guide training, and an equal number of young women should receive training in cooking simple meals for the tourist trade.

The spectacular success of the sport fishery at the Tree River makes it imperative that its fish stocks be protected from exhaustion. Present consumption is probably greater than the system can stand.

Sealing

Each chapter dealing with resource use has illustrated that the ringed seal is not being exploited to the full, and that in some locations this resource is being wasted. The superiority of taking

seals by net over other hunting methods has been effectively demonstrated. It is recommended that a Projects Officer familiar with seal harvesting techniques be appointed to look over the most promising netting sites in the region, to give instructions in the use of seal nets, and in the efficient preparation of sealskins.

In any event, while the current level of prices prevails every effort should be made to help people set up and supply seal hunting camps in strategic areas. Also, as has already been mentioned, hunting of basking seals would be greatly aided by demonstrated proof that the stalking blind can increase the harvest.

Top priority should be given to a survey of the seal population, including a biological study, in order to determine what degree of exploitation this population can stand.

Ammunition Reloading Equipment

Reloading equipment costing about \$300 per set would be of particular value in the settlements of Cambridge Bay and Coppermine. Use of this equipment could result in a minimum saving of \$1,000 annually in each settlement. These reloading tools might be purchased by the Eskimo Co-operatives and used by individuals after adequate instructions. Ammunition for relief issue can be made in quantity by Eskimo rehabilitants or convalescents, at the same time providing these people with employment.

Handicrafts Development

It is recommended that a Crafts Officer be appointed to the region in order to further and improve handicrafts production of stone, clay, fur and bone materials.

Soapstone Quarrying

Across the region soapstone is laboriously quarried with pick and axe. The feasibility and method of blasting soapstone has been described in detail by Currie (1963, p. 103). It is recommended that a qualified person investigate local deposits, and blast a year's supply annually. His transportation to the deposits can be arranged in conjunction with the Area Administrators' aircraft patrols.

Fox Trapping

According to Macpherson¹ of the Canadian Wildlife Service the population size of the white fox in any one winter is closely related to the abundance of lemming the preceding spring.

He states that if a record is kept of the lemming taken in a fixed number of mouse traps in the same place each June, year after year, and followed by a litter count in a nearby location in late July, then the state of the lemming cycle can be determined

¹Personal Communication

and with it the prospects for next season's fox production.

The practical applications of this are of great value. Once the fluctuations in the fox population can be predicted plans may be made to harvest remote areas in good years.

It is recommended that interested persons, such as Eskimos, Government officials, Hudson's Bay Company managers and missionaries in the region be instructed in the technique of lemming trapping, and in the interpretation of results.

Area Recommendations

Coppermine

Winter Fishery

Fish is one of the staple foods in the area, yet never enough is secured to see the people through the winter months. At the same time relief expenditures on foods are high.

Dismal Lakes, 60 miles southwest of Coppermine, are traditional fishing lakes now abandoned. The fish potential of these lakes, calculated at one pound per acre of surface water, is in the region of twenty tons annually.

The possibility of a winter fishery on Dismal Lakes to provide fish for domestic use should be investigated. The fishery would start in fall, shortly after freeze-up, and continue until the beginning of the fox season. It would involve three to four Coppermine families, and be supported by the Pacific Western Airlines Otter on its scheduled flights to and from Yellowknife.

Caribou are said to graze the area the year round so that caribou hunting, and some incidental fox trapping might be considered an added attraction. If the project proves successful this fishery could be expanded, or rotated to other lakes, such as Blue Nose Lake which is known to be rich in fish.

Commissary

Stocks of staple foods, ammunition and fuel at either Read Island or Lady Franklin Point would give valuable support to the people of these camps who now have no alternative but to travel to Coppermine for their supplies. Buildings available at Read Island or Lady Franklin Point could be used for this purpose. Stocks can be brought in by sealift, and issued by the Area Administrator on monthly patrols, or by a local resident. A similar commissary should be considered for the camp at Tree River. Provisions at these sites could also be used to support trapping and sealing ventures in the area.

The Coppermine Eskimo Co-operative

It is recommended that the management of the Coppermine Eskimo Co-operative be given guidance and assistance, specifically towards providing tourist facilities already planned, discrimination in the sales display, and the realistic pricing of carvings.

It is also recommended that soapstone carvings, instead of being shipped to wholesalers, be made available in quantity for sale at the Tree River Tourist Lodge, and that generally more carvings be stocked for sale to tourists passing through Coppermine.

Fox Trapping

In good fox years support should be given to trappers to harvest the Wollaston Peninsula and other remote but productive areas. Assistance would be given in the form of transportation and stockpiling of dog food and fuel. This project would be integrated with the commissary and sealing proposed above. A supply of dog food would be a by-product of the sealing operation.

Holman

Fox Trapping

The northwest corner of Victoria Island is reported to be good white fox and polar bear country. Because of its distance from a trading post this area is not trapped. There are still men in Holman who are familiar with this area. Consideration should be given to airlifting supplies into this country in the late winter of a good white fox year. This project would also serve to introduce young men into an area which would otherwise become unknown and abandoned as no one would venture into it. A similar project might be considered for parts of Banks Island which are not being harvested.

Seal Oil

In view of the increasing number of low-cost houses being erected at Holman and the reduced price of heating fuel it is reasonable to assume that in the years to come Holman may have seal oil surplus to the needs of the community. It is recommended that the possibility of shipping seal oil for dog food from Holman to the Mackenzie Delta be investigated.

Freezer and Cold Storage Facilities

To facilitate greater use of country foods, consideration should now be given to the inclusion in the school complex of a freezer big enough to serve the settlement's needs.

Guest House

The Holman area offers visitors the attractions of remarkable scenery and excellent trout fishing. Many prospective tourists must stay away because of the lack of accommodation. Visitors are now put up at the

Hudson's Bay Company Manager's house or at the Roman Catholic Mission. Although both organizations are hospitable their facilities are limited. It is therefore proposed that a guest house, of the low-cost two bedroom variety be built by the Department of Northern Affairs for the use of government parties and tourists. The Holman Co-operative would be charged with its management. While this offers little direct financial benefit money would accrue to the community as a result of tourist spending on food, handicrafts, and the hire of boats and guides.

Eskimo Schooner

The owner of a seaworthy schooner which is little used because of a defective engine, should be encouraged to buy a new engine through the Eskimo Loan Fund. His schooner would be a great asset to the community for resource harvesting projects in Prince Albert Sound and Minto Inlet.

Bathurst Inlet

Trading Facilities

In order to make it possible for the people to remain in the area it is recommended that trading facilities be maintained in Bathurst Inlet.

Relocation of Trading Facilities

Consideration should be given to the eventual relocation of the trading post from its present site to Baychimo Harbour. The latter has the advantage of being central to all camps and resources of the area. Baychimo Harbour also provides the facilities that the Bathurst Inlet settlement lacks, among them a good, well sheltered anchorage in deep water.

Projects Officer

To raise the level of the economy it is recommended that a person skilled in resource exploitation, and familiar with the conditions of a primitive Eskimo society, be sent into the area suitably equipped to provide the leadership, organization, and guidance now lacking.

Perry Island

At this writing there is no official indication that the trading post at Perry Island will close. Although the Perry Island area has a richer renewable resource base its problems are similar to those of Bathurst Inlet. It is therefore proposed that the Projects Officer assigned to Bathurst Inlet ultimately extend his activities to Perry Island.

Fox Trapping

The mainland coast between Perry Island and the end of Queen Maud Gulf is excellent white fox country. The

reaches of this coast are, like the northwest corner of Victoria Island, too far from a trading post to be effectively trapped. It is recommended that in a good fox year trappers be assisted into the area. A cache of supplies can be established by boat.

Cambridge Bay

Most of the recommendations made in the foregoing pages apply also to Cambridge Bay and need not be repeated here. Two specific projects are suggested here. The first involves as outlined in chapter XI, expansion of the Co-operative char fishery to the Halugvik system, and an increased winter harvest of trout as soon as production costs and market conditions make this increase profitable.

Parka Making Project

Reference has been made to the extent which the lack of suitable winter clothing has reduced the length of time an Eskimo spends on his trap line.

Neither the ready-made parkas, nor the home-made parkas of duffle, stroud, and grenfell cloth really answer the needs of winter trapping, fishing or hunting.

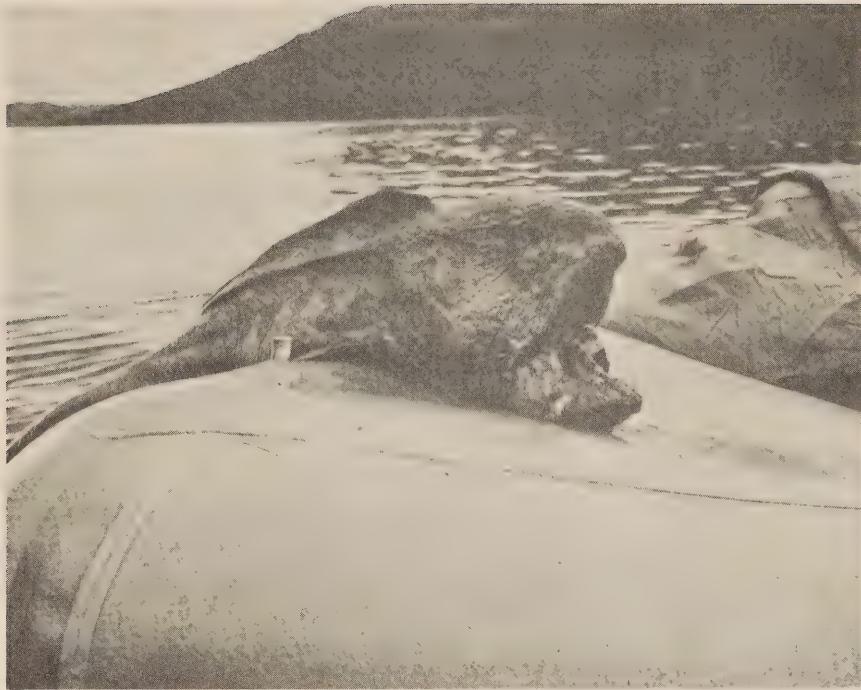
Since caribou skins are no longer available in sufficient quantities it is recommended that a parka making project employing local women be started to produce clothing of down or of a proven synthetic material. At the start the project would produce men's parkas, eventually it would expand to provide parkas for a larger part of the population, particularly for the children resident in the federal school hostels.

Contwoyto Lake

Most of the following recommendations have been made before and outlined in detail by the Game Management Officer resident at the Pellatt Game Camp. Because of the continuing relevance of these recommendations they are repeated here in summary form:

1. That a frost cellar for the preservation of country foods be dug at the Pellatt Game Camp.
2. That racks be built for meat drying.
3. That in order to give the domestic fishery at Pellatt Lake greater flexibility consideration be given to exchanging some of the heavy dories now used for lighter and smaller boats.
4. That through the Eskimo Loan Fund two or three low-powered outboard motors be acquired to give the domestic fishery greater mobility.

5. That the tourist possibilities of Pellatt Lake be investigated with particular reference to the income potential from guide service, rental of houses and equipment. Changes in the Northwest Territories Game Ordinance might be considered to permit tourists to shoot a trophy caribou, with the proviso that meat and skin are turned over to the Eskimos.
6. That some of the Contwoyto Lake and Pellatt Lake Eskimos who have been engaged as prospectors in past years be given further training in mineral identification.



A Sea Wolf or Wolf Fish-
(*Anarhichas denticulatus*) Kröyer.

This fish was caught in a 14 inch mesh seal net in Bathurst Inlet by the Area Survey. It weighed $16\frac{1}{2}$ pounds and was 38 inches long.

Its jaws have strong conical teeth in front and two series of large molars on the sides. A similar double band of molars are in the middle of the palate. These are used to crush the shells of crustaceans and molluscs on which it feeds.

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APPENDIX A

Eskimo Housing at Coppermine - January 1963

Family	Material	Condition	Area in Sq. ft.	Adults	Children	Total Occupants	Sq. ft. per person	Fuel used	Remarks
1	scrap	inad.	144	4	3	7	21	H,G	Shared w. fam. no.3
2	scrap	inad.	80	2	2	4	20	H,W	
4	scrap	inad.	180	2	4	6	30	H	
5	frame ^x	adeq.	160	2	2	4	40	C	
7	scrap	inad.	108	2	3	5	21	H,W,S	
8	scrap	inad.	144	3	4	7	21	H,G	Shared w. fam. no.6
9	scrap	inad.	225	4	2	6	37	H	Shared w. fam. no.47
10	frame	adeq.	384	2	0	2	192	H	
11	scrap	inad.	96	2	4	6	16	H,W,S	
12	scrap	inad.	168	5	3	8	21		Shared w. fam. no.204
13	scrap	inad.	126	2	1	3	42	H,S	
14	scrap	inad.	140	2	6	8	17	H	
15	plywood	inad.	128	2	2	4	32	H,K,S	
16	scrap	inad.	128	3	1	4	32	H	
17	scrap	inad.	216	3	4	7	31	H,W	
18	frame ^x	adeq.	512	2	2	4	128	H	
19	scrap	inad.	80	2	2	4	20	H,W,S	
21	frame ^z	adeq.	320	2	0	2	160	H	
22	scrap	inad.	96	4	2	6	16	G	
23	frame	adeq.	252	1	0	1	252	H,W	
24	frame ^x	adeq.	480	2	5	7	69	H	
25	scrap	inad.	96	2	2	4	24	H,W	
27	scrap	inad.	216	3	7	10	22	H,W	
28	scrap	inad.	80	3	3	6	13	W,S	
29	scrap	inad.	256	2	3	5	51	H,W,S	
30	scrap	inad.	120	3	1	4	30	H,W	Shared w. fam. no.106
31	scrap	inad.	80	1	2	3	27	H	
34	scrap	inad.	160	5	5	10	16	H,W	Shared w. fam. no. 104
35	wood	inad.	140	3	1	4	37	H	
36	frame ^z	adeq.	320	2	0	2	160	H	
38	frame ^x	adeq.	512	5	4	9	57	H	
40	frame ^x	adeq.	280	3	3	6	47	H	
41	scrap	inad.	144	2	4	6	24	W,S	
42	scrap	inad.	96	3	6	9	11	H,W	
43	scrap	inad.	180	2	4	6	30		
45	scrap	inad.	128	4	2	6	21	H	Shared w. fam. no.201
46	scrap	inad.	180	3	2	5	36		
48	scrap	inad.	108	2	3	5	21	H,W,S	
49	scrap	inad.	108	3	3	6	18	H,G	
103	scrap	inad.	128	3	2	5	26	H	
105	scrap	inad.	168	2	4	6	28		
108	scrap	inad.	96	4	0	4	24	H,W	

APPENDIX A (CONT'D)

Family	Material	Condition	Area in sq. ft.	Adults	Children	Total Occupants	Sq. ft. per person	Fuel used	Remarks
109	scrap	adeq.	168	1	0	1	168		
111	scrap	inad.	168	5	3	8	21		Shared w. fam. no. 26
113	scrap	inad.	144	4	1	5	29		
121	wood	inad.	108	2	1	3	36		
202	scrap	inad.	91	3	4	7	13		Shared w. fam. no. 37
203	scrap	inad.	120	4	5	9	13		Shared w. fam. no. 11
Unoccupied housing:									
a	scrap	inad.	96						
b	plywood	inad.	192						
c	scrap	inad.	120						
d	scrap	inad.	120						
x rented									
z welfare									
H - heating oil									
W - wood									
S - seal oil									
G - gasolene									
K - kerosene									
C - coal									

Eskimo Housing at Holman - January 1963

Family	Material	Condition	Area in sq. ft.	Adults	Children	Total Occupants	Sq. ft. per person	Fuel used	Remarks
1	prefab	adeq.	288	1	4	5	58	H	
3	plywood	inad.	168	2	3	5	34	S	
4	scrap	inad.	180	2	6	8	22	S	
5	scrap	inad.	120	4	1	5	24	S	
6	prefab	inad.	288	4	5	9	32	H	
8	prefab	adeq.	288	6	1	7	41	H	
9	plywood	inad.	120	2	5	7	17	S	
10	frame	adeq.	320	2	3	5	64	H, S	
11	prefab	adeq.	288	5	3	8	36	H	Shared w. fam. no. 2
12	prefab	adeq.	288	2	1	3	96	H	
13	scrap	inad.	112	3	1	4	28	S	Shared w. fam. no. 7
14	scrap	inad.	120	3	4	7	17	S	
15	scrap	inad.	192	2	2	4	43	S	
16	plywood	inad.	225	3	4	7	32	S	
17	prefab	adeq.	288	1	2	3	96	H	
18	plywood	inad.	192	2	6	8	24	S	
19	prefab	adeq.	288	4	2	6	48	H	
20	scrap	inad.	150	4	5	9	17	S	

APPENDIX B

Coppermine Nursing Station RecordAssistance Given By Nurse

1962	1	2	3	4
January	94	207	143	9
February	83	268	434	5
March	46	161	124	9
April	6	27	105	4
May	243	827	173	3
June	54	116	220	5
July	43	153	357	7
August	42	106	256	4
September	38	107	200	5
October	60	284	151	4
November	27	95	227	5
December	108	467	246	1

1. Number of homes visited by the nurse.
2. Total number of persons helped in home visits.
3. Number of persons visiting the clinic.
4. Persons admitted to bed in the nursing station.

Common Ailments Treated in 1962

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Common Cold and Influenza	12	91	1	14	155	28	52	22	2	2	13	63	455
Skin Conditions	-	-	-	1	3	7	5	2	1	2	-	16	37
Ear, nose or throat infections	5	73	-	10	17	31	33	9	3	9	13	17	220
Cuts, bruises and sprains	1	7	2	6	4	10	14	18	7	9	12	6	96
Infections hepatitis	-	-	-	-	-	-	-	-	10	2	-	-	12
Eye conditions	11	5	-	10	12	1	-	5	1	3	-	2	50
Respiratory conditions	5	7	11	-	7	-	2	3	1	1	-	-	37
Arthritis and rheumatism	7	4	-	3	1	5	4	3	3	1	1	1	33
Chicken-pox	-	-	-	-	-	-	24	15	2	-	-	-	41
Gastro-enteritis	19	6	-	16	7	21	45	15	9	1	-	1	140

APPENDIX C

Working Capital by Family - Coppermine July, 1963.

Family	No. of Men Able to Hunt	Remarks	Motor Sleds	Boats	Boat ¹ in H.P.	Motors	Dogs	Fox Traps	Seal Hooks	Guns No.	Type
1	0			12' dinghy	3	7	40	10	1	22	30-30
2	1			16' canoe	8	8	90		2	30-30,	308
3	1	PE	1	16' canoe	5 1/2	8			3	22,	25-35,
4	1			jollybt.					5	22,	222, 30-30,
5	1			16' dinghy	10	11	200	16		12g.	12g.
6	1			14' speedbt.					5	22,	222, 30-30,
7	1								3	22,	25-20, 30-30
8	1								3	22,	
9	0								2	22,	
10	0								3	22,	
11	1								3	22,	
12	1								1	30-30	
13	1	PE	1	14' dinghy	3	5	80	18	3	22,	222, 25-35
14	1			12' dinghy	8	8			3	22,	
15	1				12				1	30-30	
16	1	PE	1	14' dinghy	18	6	500	37	4	22,	222, 300, 16g.
17	1			12' dinghy	3	8			4	22,	25-20, 25-35, 16g.
18	1			jollybt.	4	inb.			5	22,	222, 300
19	1								2	22,	25-35
20	1								8	22,	303
21	0								2	22,	
22	1								2	22,	
23	0	PE	1	18' canoe	3	15	85	10	1	22	25-20, 250, 30-30,
24	1			14' canoe					6	22	12g., 16g.
25	1								3	22,	30-30, 12g.
26	1								1	22	
27	1								4	22,	25-35, 303, 16g.
28	2	PE	1	20' canoe	10	9			3	22,	25-20, 30-30
29	1			18' canoe	5 1/2	10	380	18	5	22,	222, 300, 308, 12g.
30	1			18' canoe	9	9	270	13	1	250	
31	1	CH	1	14' jollybt.	10	7	60	7	2	30-30,	12g.
				18' canoe	5 1/2				1	22	

Family	No. of Men Able to Hunt	Remarks	Motor Sleds.	Boats	Boat ¹ in H.P.	Motors in H.P.	Dogs	Boat ¹	Motors	Dogs	Fox Traps	Seal Hooks	Guns No.	Guns Type
32	1			jollybt.	9	inb.	7	50	10	3	30-30, 300, 303			
33	1			16'	canoe		6	20	12	2	22, 30-30			
34	2	CH, PE						50		2	222, 12g.			
35	1			16'	canoe	3	7	5		2	22, 30-30			
36	0							7		1	30-30			
37	1			jollybt.	18		1		5	2	22, 300			
38	3						1			1	22			
39	0			jollybt.	16'	canoe	5	1/2	8	2	22, 300			
40	2	PE, PE					10	9		2	22, 30-30			
41	1			speedbt.	9	inb.	7	50	6	3	22, 30-06, 12g.			
42	2			5	1/2		10							
43	1			12'	jollybt.			100		3	222, 303, 308			
44	1							1		1	22			
45	1			16'	canoe	10		30	8	3	30-30, 300, 12g.			
46	3	CH		speedbt.	10					2	22, 30-30			
47	1	PE		dinghy	5					3	22, 222, 303			
48	1			7	1/2					5	22, 222, 25-35,			
49	1			5	1/2					2	22, 222			
50	1			12						2	22, 250			

Families Trading Into Coppermine

Clifton Point

0-30, 30-06,
16g., 16g.,
20g.

21' canoe 5 1/2
speedbt. 18

Hoppper River

canoe inb. 12 60 9 4 22, 30-30, 303, 308
jollybt.

APPENDIX C (CONT'D)

Family	No. of Men Able to Hunt	Remarks	Motor Sleds	Boats	Boat ¹ in H.P.	Motors in H.P.	Dogs	Fox Traps	Seal Hooks	Guns No.	Type
<u>Head of Rae River</u>											
103	1									no data	
104	2									no data	
<u>Bernard Harbour</u>											
105	1										
106	1										
<u>Basil Bay</u>											
107	2									no data	
<u>Mouth of Rae River</u>											
108				3			10		7	20	
109				1			13'	speedbt.	9	50	
110				1			20'	canoe	9		
111				1			18'	canoe	10		
								jollybt.			
<u>Tree River</u>											
112				2			15	jollybt.	19	40	
113				2				jollybt. inb.			
114				1			10	dinghy	8	25	
115				1			10	speedbt.	11	50	
116				1			10	speedbt.	13	800	
							18'	canoe	13	200	
<u>Richardson Island</u>											
117	2							jollybt. 6 inb.	20	250	
									16	4	
								22, 222, 30-30, 20			
								10			

APPENDIX C (CONT'D)

Family	No. of Men Able to Hunt	Remarks	Motor Sleds	Boats	Boat ¹ in H.P.	Motors	Dogs	Fox Traps	Seal Hooks	Guns No.	Type
<u>Lady Franklin Point</u>											
118	2			jollybt.	1 inb.	6	300	10	4	22,	222, 16g.
119	1				5 1/2	10	75	8	5	22,	222, 30-30, 30-06
120	1			24' canoe	5	11	150	12	5	22,	25-20, 300, 12g.
121	1			jollybt.	3	7	30	2	22,	30-30	
122	1			20' canoe	18	11	300	10	5	22,	25-35, 270, 30-30, 16g.
123	2			jollybt.	inb.	9	100	14	5	22,	22, 303, 16g.
124				dinghy							
				no data							
<u>Read Island</u>											
125	2			36' schooner	9 inb.	13	600	40	4	22,	30-30, 303, 16g.
126	1			jollybt.	5 1/2	15	300	10	5	22,	222, 270, 303, 16g.

PE - Individual permanently employed for wages.
CH - Individual in Camseil Hospital, Edmonton, throughout year preceding July 1, 1963.

¹ Outboard motor unless otherwise indicated, e.g. inb. - inboard engine.

APPENDIX D

Working Capital by Family - Holman July, 1963

Family	No. of Men Able to Hunt	Remarks	Motor Sleds	Boats	Boat Motors in H.P.	Dogs	Fox Traps	Seal Hooks	Guns No. Type
1	0					1	1	1	22
2	2	jollybt.		3	15	300	10	7	22, 22, 222, 270, 30-30,
3	1	jollybt. skiff		5 1/2	12	300	10	2	22, 300
4	1	jollybt.		3	14	200	8	3	22, 270, 16g.
5	2	22' canoe		7 1/2	9	100	15	3	22, 270, 12g.
6	2	12' speedbt.		10	21	300	10	6	22, 22, 222, 270, 30-30,
7	1	10' skiff			6	60	7	3	22, 303, 12g.
8	3	jollybt.		5 1/2	17	40	8	5	25-35, 270, 30-06, 300,
9	1	jollybt.		5	15	170		3	22, 270, 12g.
10	1	22' canoe		10	15	600		4	22, 270, 303, 12g.
11	0	18' speedbt.		10					182
12	0	jollybt.		5					
13	1				12	100	10	5	22, 25-20, 30-30, 300,
14	1	13' speedbt.		5 1/2	18	300	20	4	12g.
15	1	20' canoe		7 1/2	12	250	9	3	22, 300, 303
16	2	jollybt.		5 1/2	20	550	8	6	22, 22, 22, 270, 30-30,
17	0							2	12g.
18	1	jollybt.		5	2	175	10	4	22, 25-35, 300, 12g.
19	2	jollybt.		5 1/2	9	10		4	22, 270, 30-30, 16g.
20	2	16' canoe		5 1/2	7	600	10	3	22, 270, 12g.
<u>Families Trading Into Holman</u>									
Minto Inlet									
101		jollybt.		1				6	5
102		jollybt.		2				8	22, 25-20, 30-30, 303, 16g.
Berkeley Point									
103	4	18' canoe		3	20	500	10	10	22, 22, 222, 25-20,
		20' canoe		3					300, 16g., 16g.
		whalebt.		6 1/2 inb.					270, 303, 410, 12g., 16g.

APPENDIX EDistances in Miles Between Principal Points

Tuktoyaktuk Holman Is. Coppermine Cambridge Bay Bathurst Inlet Perry Island Hay River Yellowknife
 Waterways Vancouver

Tuktoyaktuk		398	638	785	784	930	1122	1246	1690	3774
Holman Is.	363		316	463	462	532	1520	1644	2088	4172
Coppermine	451	197		285	284	430	1760	1884	2328	4412
Cambridge Bay	665	306	265		287	145	1907	2031	2475	4559
Bathurst Inlet	648	355	201	175		355	1906	2030	2474	4558
Perry Is.	753	408	324	113	159		2052	2176	2620	4704
Hay River	753	665	468	630	459	604		125	420	4896
Yellowknife	691	557	359	516	341	493	124		420	5020
Waterways	1076	962	761	857	682	796	315	411		5464
Vancouver	1400	1452	1286	1470	1295	1435	833	954	700	

For mileage by water read above diagonal line.

For mileage by air read below diagonal line.

APPENDIX FPrincipal Radio Frequencies in the Survey Region - 1963

<u>Location</u>	<u>Operator</u>	Frequency in kcs	
		<u>Transmit</u>	<u>Receive</u>
Cambridge Bay	D.O.T.	4270	5245
	D.O.T.	5680	5680
	R.C.M.P.	4785	5240
	R.C.M.P.	4837	5292
	R.C. Mission	3420	3420
	R.C. Mission	4356	4356
Coppermine	D.O.T.	5245	5245
	D.O.T.	5680	5680
	R.C.M.P.	4785	5240
	R.C. Mission	4356	4356
Holman	H.B.C.	4455	4455
	R.C. Mission	4356	4356
Bathurst Inlet	H.B.C.	4455	4455
Perry Island	H.B.C.	4455	4455
Pellat Lake	N.A.N.R.	4270	4270

APPENDIX GDIRECTORY OF AIR CARRIERS WITH BASES IN YELLOWKNIFE

<u>Company</u>	<u>Type of Aircraft</u>
Koenen Air Service Ltd.	Cessna 180, Champion 7G
McAvoy Air Service Ltd.	Cessna 185, 195, Piper DA 18, Fairchild D 82
Northwestern Territorial Airways Ltd.	Super-Beech D 18S, Otter, Beaver
Pacific Western Airlines Ltd.	DC 6-B, DC 4, DC 3, C46, Super G 21, Piper, Otter, Beaver, Cessna 180, 185
Ptarmigan Airways Ltd.	Cessna, 140, 180, 185
Sioux Narrows Airways Ltd.	Beech D 18, Grumman Goose
Wardair Canada Ltd.	Bristol 170, 3 Otter, Beaver, Super-Beech D 18S, DC 6A-B

Source: Air Transport Board, Ottawa.
October 1963.

APPENDIX HPacific Western Airlines Ltd. - Charges for Flying Non-Term Charters¹

Aircraft	² Rate per Mile	Rate per Hour	Min. Charge per Flight	Gross Weight	³
DC 6B	\$2.40	\$685.00	\$343.00	107,000 lbs.	W
DC 4	\$2.00	\$380.00	\$190.00	73,000 lbs.	W
S 46	\$1.45	\$261.00	\$130.00	48,000 lbs.	W
DC 3	\$1.30-1.50	\$195.00-225.00	\$ 97.00-112.00	26,200 lbs.	W
Otter	\$1.05-1.15	\$110.00-124.00	\$ 18.00- 21.00	8,000 lbs.	S
Beaver	\$.77- .88	\$ 77.00- 88.00	\$ 13.50- 14.50	5,100 lbs.	S
Barkley- Grow	\$.80- .90	\$ 94.00-105.00	\$ 15.50- 17.50	8,750 lbs.	S
Super G21	\$.80- .90	\$120.00-130.00	\$ 15.00	9,200 lbs.	W
Cessna 185	\$.55- .65	\$ 75.00- 85.00	\$ 12.00	3,200 lbs.	S
Beechcraft C 185	\$.85- .95	\$105.00-117.00	\$ 15.00	7,850 lbs.	W
Beechcraft Twin Bonanza	\$.50	\$ 90.00	\$ 22.00	6,300 lbs.	W
Piper Aztec	\$.40	\$ 75.00	\$ 15.00	4,800 lbs.	S
Cessna 180	\$.42- .60	\$ 47.00- 65.00	\$ 7.50- 12.00	2,650 lbs.	S

1. Air Transport Board No. 46

2. Where more than one rate is shown zone rates apply

3. W = Wheel Aircraft, S = Ski Aircraft

APPENDIX IPacific Western Airlines Rates for Minimum Loads of 100 Lbs.

Edmonton to Cambridge Bay \$10.25 per 100 lbs.

Edmonton to Coppermine \$11.00 per 100 lbs.

Edmonton to Holman \$18.00 per 100 lbs.

Rate includes surface transportation to Yellowknife.

Charter Transportation Charges Per Aircraft¹

Yellowknife to Cambridge Bay
round trip DC 4 \$1,915.20

Yellowknife to Cambridge Bay
round trip S46 Freighter \$1,407.15

Edmonton to Cambridge Bay
round trip DC 4 \$4,273.20

¹Air Transport Board No. 46

APPENDIX JSOME COMPARATIVE RETAIL PRICES 1963

	<u>Coppermine</u>	<u>Holman</u>	<u>Cambridge Bay</u>	<u>Bathurst Inlet</u>	<u>Perry Is.</u>	<u>Ottawa</u>
Fuel Oil, per gal.	.79	.79	.79	.79	.79	.19
Kerosene, per gal.	1.40	1.65	1.65	1.65	1.70	.26
ACTO gas, per gal.	1.10	1.20	1.17	1.35	1.45	.36
Leaded gas, per gal.	1.10	1.20	1.35			.36
.30-30 cartridges, 20 rounds	4.40	4.50	4.65	4.48	4.30	3.25
.22 long cartridges, 500 rounds	10.00	8.50	10.50	10.00	10.00	8.00
Duffel cloth, per yard	8.50	9.50	9.25	9.70	9.75	
Cigarettes, package of 20	.40	.40	.40	.40	.40	.37
8 oz. tin, Players Fine Cut	2.00	1.95	1.95	1.95	1.95	1.75
Flour, per 100 lbs.	17.30	18.00	17.00	18.00	20.00	11.40
White sugar, per 5 lbs.	1.10	1.08	1.41	1.20	1.20	.99
Tea, per lb.	1.40	1.45	1.50	1.35	1.55	.79
Coffee, per lb.	1.05	.95	.99	1.06	.89	.93
Carnation milk, large tin	.29	.25	.30			.17
Powdered milk, per lb.	.93	.94	.95	.95	.99	.37
Canned butter, per lb.	1.10	1.05	.89	.85	.98	.63
Lard, per lb.	.37	.33	.28	.33	.35	.25
Chocolate bars, each	.12	.12	.10	.14		.10
Canned tomatoes, 20 ozs.	.42	.40	.45		.59	.25
Strawberry jam, 2 lbs.	1.40	1.46	1.68	1.76	1.98	.90

APPENDIX KVALUES OF STAPLE GOODS IN BATHURST INLET¹

April 1934

By 21 white foxes	\$315.00
4 1/2 lb tea	\$15.00
1 1/2 lb tobacco	8.00
18 boxes .30-30	45.00
10 yd calico	15.00
30 lb sugar	15.00
100 lb flour, lard and baking powder	30.00
15 boxes .22	15.00
3 boxes .25-20	15.00
1 sled	20.00
1 1/2 lb tobacco	8.00
10 gal. coal oil	30.00
3 lb netting	30.00
7 tins lard	15.00
3 lb tobacco	15.00
6 boxes .30-30	15.00
8 lb cod line	15.00
7 tins ham	15.00

1. A page reproduced in full from the ledger of an anonymous trader in Bathurst Inlet.

APPENDIX LExtract from R.C.M.P. Report on Netting of Seal in Coronation Gulf.

".....From September 20 to October 11, 1963, a 50 yard long, 14" mesh seal net was placed off a small spit at approximately $115^{\circ}13'W$ and $68^{\circ}11'N$. The shore end of the net was in 15 feet of water, and the far end in 30 feet.

The catch is as noted hereunder:

	Date	Number of Seal
September	21	1
	22	5
	23	4
	24	1
	25	7
	26	1
	27	8
	28	7
	29	2
	30	1
October	1	5
	2	6
	3	4
	4	0
	5	5
	6	0
	7	0
	8	0
	9	1
	10	Not checked
	11	9
		<hr/>
		Total 67
		Average per day 3.19

The sealing by net was highly successful. During the same period, only 11 seals were obtained by hunting. There were only two days in this period calm enough to allow us to hunt....."

Signed: D. Friesen,
Corporal-in-Charge,
Coppermine Detachment.
October 19, 1963.

APPENDIX MCensus and Sightings of Ringed Seal - Bathurst Inlet and Perry Island Areas.

<u>Date</u>	<u>Conditions</u>	<u>Locations and Approximate Distances</u>	<u>Count</u>
May 27	On sea ice	Bathurst Inlet - Tinney Cove	10 miles 10
May 28	On sea ice	Bathurst Inlet - Tinney Cove	10 miles 24
June 2	On sea ice	Bathurst Inlet - Goulburn Peninsula	60 miles 10
June 4	On sea ice	Goulburn Peninsula - Wollaston Point	25 miles 19
June 4	On sea ice	Wollaston Point - Arctic Sound	25 miles 1
June 6	On sea ice	Arctic Sound - Wollaston Point	25 miles 6
June 6	On sea ice	Wollaston Point - Akalulia Island	25 miles 22
June 8	On sea ice	Baychimo - Kanuyak Island	15 miles 27
June 8	On sea ice	Kanuyak Island - Razor Top Point	40 miles 10
June 9	On sea ice	Razor Top Point - Bathurst Inlet	35 miles 12
July 10	Around ice pans	Gordon Bay area	10 miles 4
July 11	Around ice pans	Gordon Bay - Quadyuk Island	15 miles 10
July 12	Calm seas	Gordon Bay area	2 miles 2
August 1	Around ice pans	Perry Island - Flagstaff Island	6 miles 1
August 4	Around ice pans	Parry Island area	8 miles 9
August 8	Calm seas	Flagstaff Island - Perry Island	6 miles 3
August 24	Calm seas	Parry Bay	2 miles 2
August 26	Calm seas	Parry Bay	10 miles 2
August 28	Rough seas	Buchan Bay	2 miles 2
August 31	Rough seas	Baychimo	1 mile 1
September 3	Rough seas	Ekalulia Island	1 mile 1
September 8	Rough seas	Quadyuk Island - Bathurst Inlet	1 mile 1

Totals

334 miles 179

APPENDIX N

Bathurst Inlet

Area Survey Fishing Record

<u>Location</u>	<u>Period</u>	<u>Units of Effort *</u>	<u>Char</u>	<u>Lake Trout</u>	<u>Whitefish</u>	<u>Cisco</u>	<u>Cod</u>	<u>Total LBS.</u>
Bathurst Inlet	June 14 - July 8	102	1373	315	173	57		1918
Gordon Bay	July 13 - July 15	8	2	66	5	71	32	176
Parry Bay	August 23 - August 26	7	353	16			6	375
Ekallulia Lake	September 2 - September 3	3		22	50		2	13
Bathurst Inlet	September 11 - September 13	10	64	2		4	90	160

Bathurst Inlet

Area Survey Sealing Record

<u>Location</u>	<u>Period</u>	<u>Units of Effort *</u>	<u>Seal Catch</u>
Gordon Bay	July 12 - July 14	4	2
Barry Islands	September 3 - September 6	10	6
		Totals 14	8

* One unit of effort is one 150 foot net set for a period of 12 hours.

APPENDIX OInformation on the Diet of Bathurst Inlet and Perry Island Eskimos¹

1. Is the majority of the food eaten raw or cooked?

As a general rule one can say that raw food is 60 per cent of the Eskimos' diet, 30 per cent is cooked food, and 10 per cent consists of cooked "White Man's Food".

Fish is generally eaten raw, either frozen or dried. In times of abundance it is eaten boiled. Fish heads are almost always eaten boiled.

Caribou is eaten boiled or raw (frozen) but it seems that most of the caribou meat is eaten dried.

Seal meat, birds and squirrels are always eaten boiled, but seal blubber and caribou fat are eaten raw.

When fuel is scarce food may be cooked once a day or not at all. When fuel is abundant two meals may be cooked in one day.

2. How much meat and fish is eaten?

Fish is the main source of food the year round. Arctic char is usually fat, and whitefish is usually lean. Tom cod is abundant, but always lean and only eaten when nothing else is available.

Seal, caribou, birds and others account for 25 per cent of the Eskimo diet.

3. Is much fat eaten?

Fat is very much liked. Eskimos are always on the look out for game with fat. Lean food may be served with caribou fat or seal blubber. The caribou in the fall, and sometimes in the summer, has a thick layer of fat which is collected and may be put aside for winter.

The fat from birds and ground squirrels seems richer and is cooked separately from the meat.

4. Do they eat much in the way of birds' eggs, ptarmigan and shell fish?

Eggs are a negligible part of their diet. Ptarmigan is eaten for a change or when nothing else is available. Shell fish is not eaten.

¹Part of information supplied (1962) by Father Menez in answer to questionnaire by L.E.C. Davies, M.D., Department of National Health and Welfare.

5. How much tea, coffee, and flour does the average family buy?

Tea: 20 to 25 lbs. per year

Coffee: 4 to 6 lbs. per year

Flour: 200 lbs. per year

Generally tea is weak, two to three tablespoons for one gallon of water. Just enough coffee is used to give a brownish colour to the water. For bannock one pound of baking powder is used for every 25 pounds of flour.

